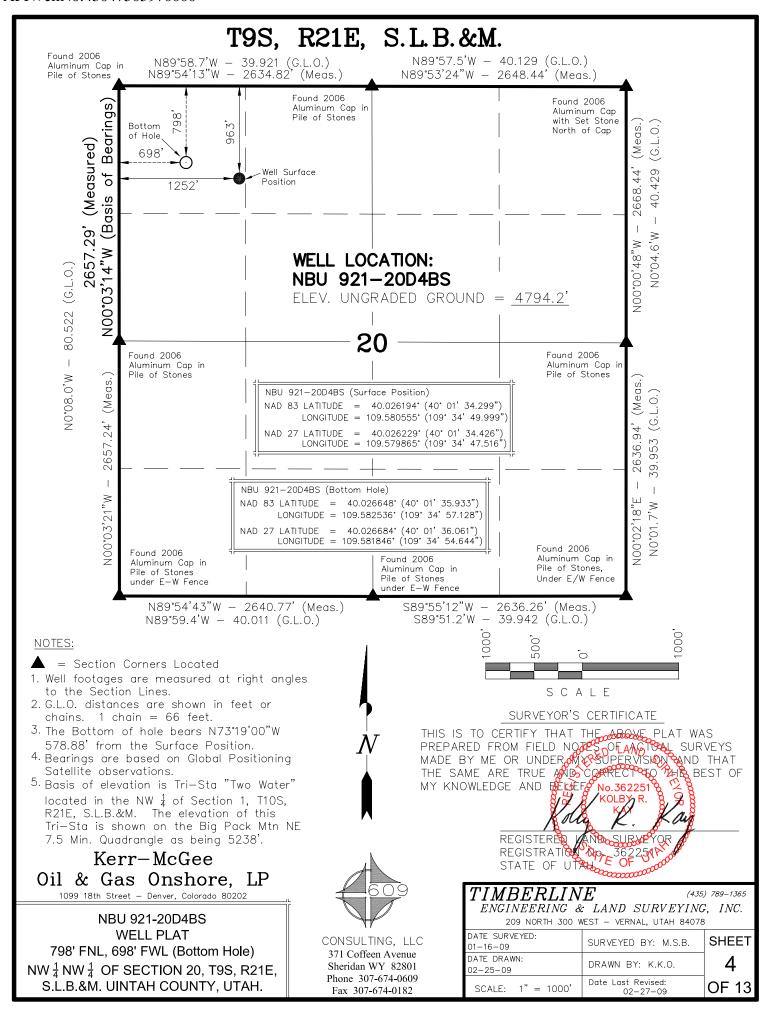
		DEPARTMENT (	ATE OF UTAH OF NATURAL RES F OIL, GAS AND N		5		FORI		
APPLI	CATION FOR	PERMIT TO DRILL			1	1. WELL NAME and NUMBER  NBU 921-20D4BS			
2. TYPE OF WORK  DRILL NEW WELL	REENTER P	SA WELL ( DEEPEN	N WELL		3	3. FIELD OR WILDCAT  NATURAL BUTTES			
4. TYPE OF WELL  Gas We	ell Coalt	ped Methane Well: NO				5. UNIT or COMMU	NITIZATION AGRE	MENT NAME	
6. NAME OF OPERATOR KERF	R-MCGEE OIL & (	GAS ONSHORE, L.P.			7	7. OPERATOR PHON	<b>IE</b> 720 929-6587		
8. ADDRESS OF OPERATOR P.O	. Box 173779, [	Denver, CO, 80217			9	9. OPERATOR E-MA mary.mo	IL ondragon@anadarko	.com	
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)				12. SURFACE OWN					
UTU 0575		FEDERAL ( INDI	IAN 🗍 STATE 🕻	) FEE			DIAN 🗐 STATE (	~ ~	
13. NAME OF SURFACE OWNER (if box 12	= 'fee')				1	14. SURFACE OWN	ER PHONE (if box 1	2 = 'fee')	
15. ADDRESS OF SURFACE OWNER (if box	12 = 'fee')		1	16. SURFACE OWN	R E-MAIL (if box 1	.2 = 'fee')			
17. INDIAN ALLOTTEE OR TRIBE NAME		18. INTEND TO COM		ION FROM	м 1	19. SLANT			
(if box 12 = 'INDIAN') Ute Tribe		on) NO		VERTICAL DIR	ECTIONAL 📵 HO	ORIZONTAL 🗍			
20. LOCATION OF WELL	FC	OOTAGES	QTR-QTR	SECT	TION	TOWNSHIP	RANGE	MERIDIAN	
LOCATION AT SURFACE	963 FN	NL 1252 FWL	NWNW	20	0	9.0 S	21.0 E	S	
Top of Uppermost Producing Zone	798 FI	NL 698 FWL	NWNW	20	0	9.0 S	21.0 E	S	
At Total Depth	798 FI	NL 698 FWL	NWNW	20	0	9.0 S	21.0 E	S	
21. COUNTY  UINTAH		22. DISTANCE TO NE	AREST LEASE LIN 698	E (Feet)	2	23. NUMBER OF AC	RES IN DRILLING	JNIT	
		25. DISTANCE TO NE (Applied For Drilling		AME POO	DL :	<b>26. PROPOSED DEPTH</b> MD: 10403 TVD: 10330			
<b>27. ELEVATION - GROUND LEVEL</b> 4794		28. BOND NUMBER	WYB000291			29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE Permit #43-8496			
		AT	TACHMENTS						
VERIFY THE FOLLOWING	ARE ATTACH	IED IN ACCORDANC	CE WITH THE UT	AH OIL	. AND GA	AS CONSERVATI	ON GENERAL RU	ILES	
<b>✓</b> WELL PLAT OR MAP PREPARED BY	LICENSED SUF	RVEYOR OR ENGINEER	сом	PLETE DR	RILLING I	PLAN			
AFFIDAVIT OF STATUS OF SURFACE	OWNER AGRE	EEMENT (IF FEE SURFA	ACE) FORM	1 5. IF OP	PERATOR	IS OTHER THAN T	HE LEASE OWNER		
DIRECTIONAL SURVEY PLAN (IF DID DRILLED)	RECTIONALLY	OR HORIZONTALLY	<b>у</b> торо	GRAPHIC	CAL MAP				
NAME Danielle Piernot	Т.	ITLE Regulatory Analyst	:	РНО	<b>DNE</b> 720 9	929-6156			
SIGNATURE	D	<b>ATE</b> 07/22/2009		ЕМА	<b>AIL</b> daniel	le.piernot@anadarko	.com		
<b>API NUMBER ASSIGNED</b> 43047505970000	A	PPROVAL		`	Bol	Quill			
					Permi	t Manager			

API Well No: 43047505970000 Received: 7/22/2009

	Proposed Hole, Casing, and Cement											
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)								
Prod	7.875	4.5	0	10403								
Pipe	Grade	Length	Weight									
	Grade HCP-110 LT&C	680	11.6									
	Grade I-80 LT&C	9723	11.6									

API Well No: 43047505970000 Received: 7/22/2009

	Proposed Hole, Casing, and Cement											
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)								
Surf	12.25	9.625	0	2630								
Pipe	Grade	Length	Weight									
	Grade J-55 LT&C	2630	36.0									



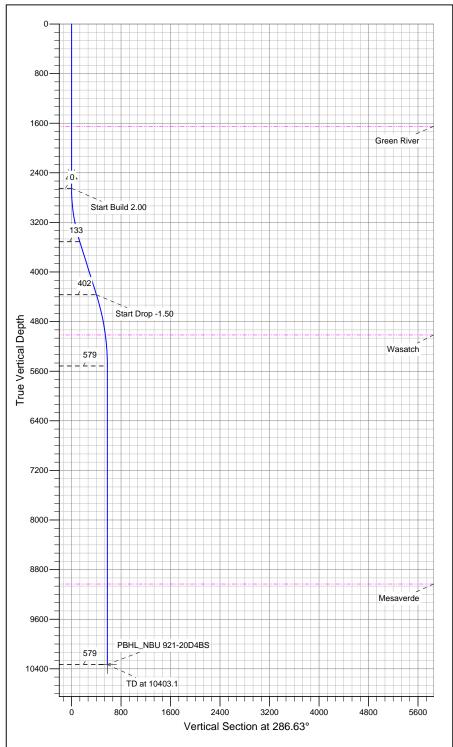


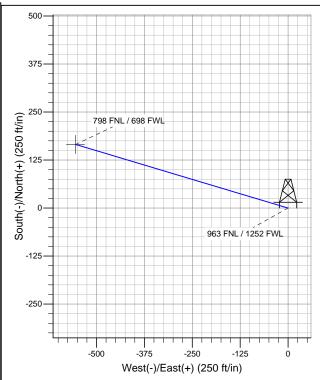
Well Name: P\_NBU 921-20D4BS
Surface Location: UINTAH\_NBU 921-20D PAD

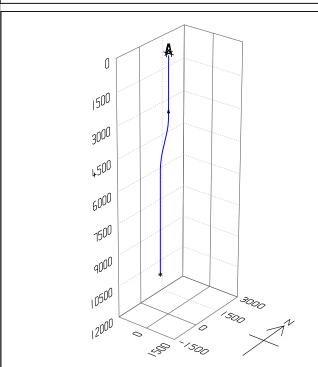
NAD 1927 (NADCON CONUS)niversal Transverse Mercator (US Survey Feet)

UTAH - UTM (feet), NAD27, Zone 12N Ground Elevation: 4793.0

Northing Easting Latitude Longitude 14538764.47 2037992.18 40.026229°N 109.579865°W







SE	CT	ION	DE	ΓΔΙΙ	S

Sec MD Inc Azi **TVD** +N/-S +E/-W DLeg **TFace VSec** 0.00 0.0 0.00 0.0 0.00 0.0 0.0 0.00 0.0 2 2650.0 0.00 0.00 2650.0 0.0 0.0 0.00 0.00 0.0 3 3524.9 17.50 286.63 3511.4 37.9 -127.0 2.00 286.63 132.6 0.00 4 4421.5 17.50 286.63 4366.5 115.1 -385.3 0.00 402.2 5 5588.1 0.00 0.00 5515.0 165.7 -554.7 1.50 180.00 578.9 10403.1 0.00 10330.0 165.7 -554.7 0.00 0.00 578.9 6 0.00



Azimuths to True North Magnetic North: 11.37°

Magnetic Field Strength: 52574.7snT Dip Angle: 65.94° Date: 4/20/2009 Model: IGRF200510

# **ROCKIES - PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_NBU 921-20D PAD P\_NBU 921-20D4BS P\_NBU 921-20D4BS

Plan: Plan #1 04-20-09 ZJRA6

# **Standard Planning Report - Geographic**

20 April, 2009

# **APC**

# Planning Report - Geographic

Database: apc\_edmp

Company: ROCKIES - PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 UINTAH\_NBU 921-20D PAD

 Well:
 P\_NBU 921-20D4BS

Wellbore: P\_NBU 921-20D4BS
Design: Plan #1 04-20-09 ZJRA6

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Well P\_NBU 921-20D4BS

WELL @ 4793.0ft (Original Well Elev) WELL @ 4793.0ft (Original Well Elev)

True

Minimum Curvature

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Fee System Datum: Mean S

Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: Zone 12N (114 W to 108 W)

Mean Sea Level

Site UINTAH\_NBU 921-20D PAD

Northing: 14,538,771.61 ft Latitude: 40.026246°N Site Position: Lat/Long Easting: 2,038,051.72ft Longitude: 109.579652°W From: 0.91° **Position Uncertainty:** 0.0 ft **Slot Radius: Grid Convergence:** 

Well P\_NBU 921-20D4BS

 Well Position
 +N/-S
 0.0 ft
 Northing:
 14,538,764.47 ft
 Latitude:
 40.026229°N

 +E/-W
 0.0 ft
 Easting:
 2,037,992.18 ft
 Longitude:
 109.579865°W

Position Uncertainty 0.0 ft Wellhead Elevation: ft Ground Level: 4,793.0 ft

Wellbore P\_NBU 921-20D4BS

 Magnetics
 Model Name
 Sample Date
 Declination (°)
 Dip Angle (°)
 Field Strength (nT)

 IGRF200510
 4/20/2009
 11.37
 65.94
 52,575

Design Plan #1 04-20-09 ZJRA6

**Audit Notes:** 

Version: Phase: PLAN Tie On Depth: 0.0

 Vertical Section:
 Depth From (TVD) (ft)
 +N/-S (ft)
 +E/-W (ft)
 Direction (°)

 10,330.0
 0.0
 0.0
 286.63

Plan Sections	s									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,650.0	0.00	0.00	2,650.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,524.9	17.50	286.63	3,511.4	37.9	-127.0	2.00	2.00	0.00	286.63	
4,421.5	17.50	286.63	4,366.5	115.1	-385.3	0.00	0.00	0.00	0.00	
5,588.1	0.00	0.00	5,515.0	165.7	-554.7	1.50	-1.50	0.00	180.00	
10,403.1	0.00	0.00	10,330.0	165.7	-554.7	0.00	0.00	0.00	0.00 F	BHL_NBU 921-20

# **APC**

# Planning Report - Geographic

Database: apc\_edmp

**ROCKIES - PLANNING** 

Company: Project: UTAH - UTM (feet), NAD27, Zone 12N

UINTAH\_NBU 921-20D PAD Site: P\_NBU 921-20D4BS Well:

P\_NBU 921-20D4BS Wellbore: Design: Plan #1 04-20-09 ZJRA6 **Local Co-ordinate Reference:** 

TVD Reference: MD Reference:

North Reference: **Survey Calculation Method:**  Well P\_NBU 921-20D4BS

WELL @ 4793.0ft (Original Well Elev) WELL @ 4793.0ft (Original Well Elev)

True

Minimum Curvature

leasured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.0 1,651.0		0.00 0.00	0.0 1,651.0	0.0 0.0	0.0 0.0	14,538,764.47 14,538,764.47	2,037,992.18 2,037,992.18	40.026229°N 40.026229°N	109.579865°W 109.579865°W
Green	River								
2,500.0	0.00	0.00	2,500.0	0.0	0.0	14,538,764.47	2,037,992.18	40.026229°N	109.579865°W
Surface	e Casing								
2,650.0 3,524.9 4,421.5 5,086.6	17.50 17.50	0.00 286.63 286.63 286.63	2,650.0 3,511.4 4,366.5 5,015.0	0.0 37.9 115.1 156.3	0.0 -127.0 -385.3 -523.2	14,538,764.47 14,538,800.38 14,538,873.43 14,538,912.41	2,037,992.18 2,037,864.58 2,037,605.07 2,037,466.57	40.026229°N 40.026333°N 40.026545°N 40.026658°N	109.579865°V 109.580319°V 109.581241°V 109.581734°V
Wasato	:h								
5,588.1 9,105.1	0.00 0.00	0.00 0.00	5,515.0 9,032.0	165.7 165.7	-554.7 -554.7	14,538,921.32 14,538,921.32	2,037,434.93 2,037,434.93	40.026684°N 40.026684°N	109.581846°W 109.581846°W
Mesave	erde								
10,403.1	0.00	0.00	10,330.0	165.7	-554.7	14,538,921.32	2,037,434.93	40.026684°N	109.581846°V

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL_NBU 921-20D - plan hits target of Point		0.00	10,330.0	165.7	-554.7	14,538,921.32	2,037,434.93	40.026684°N	109.581846°W

Casing Points						
	Measured Depth (ft)	Vertical Depth (ft)		Name	Casing Hole Diameter Diameter (") (")	
	2,500.0	2,500.0	Surface Casing		9-5/8 12-1/4	

Formations						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	5,086.6	5,015.0	Wasatch		0.00	
	1,651.0	1,651.0	Green River		0.00	
	9,105.1	9,032.0	Mesaverde		0.00	

# **NBU 921-20D4BS**

Pad: NBU 921-20D Surface: 963' FNL 1,252' FWL (NW/4NW/4) BHL: 798' FNL 698' FWL (NW/4NW/4) Sec. 20 T9S R21E

> Uintah, Utah Mineral Lease: UTU 0575

# ONSHORE ORDER NO. 1

# DRILLING PROGRAM

# 1. – 2. Estimated Tops of Important Geologic Markers: Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	Resource
Uinta	0 – Surface	
Green River	1,651'	
Birds Nest	1,918'	Water
Mahogany	2,426'	Water
Wasatch	5,015'	Gas
Mesaverde	8,054'	Gas
MVU2	9,032'	Gas
MVL1	9,581'	Gas
TVD	10,330'	
TD	10,403'	

# 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program.

# 4. Proposed Casing & Cementing Program:

Please refer to the attached Drilling Program.

# 5. <u>Drilling Fluids Program:</u>

Please refer to the attached Drilling Program.

# **Evaluation Program:**

Please refer to the attached Drilling Program.

# 7. Abnormal Conditions:

Maximum anticipated bottomhole pressure calculated at 10,403' TD, approximately equals 6,481 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 4,163 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

# 8. Anticipated Starting Dates:

*Drilling is planned to commence immediately upon approval of this application.* 

# 9. <u>Variances:</u>

Please refer to the attached Drilling Program.

*Onshore Order #2 – Air Drilling Variance* 

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

# **Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

# Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

# Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

# Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

# Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). The air rig operation utilizes a 5M BOPE when drilling. This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

# Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

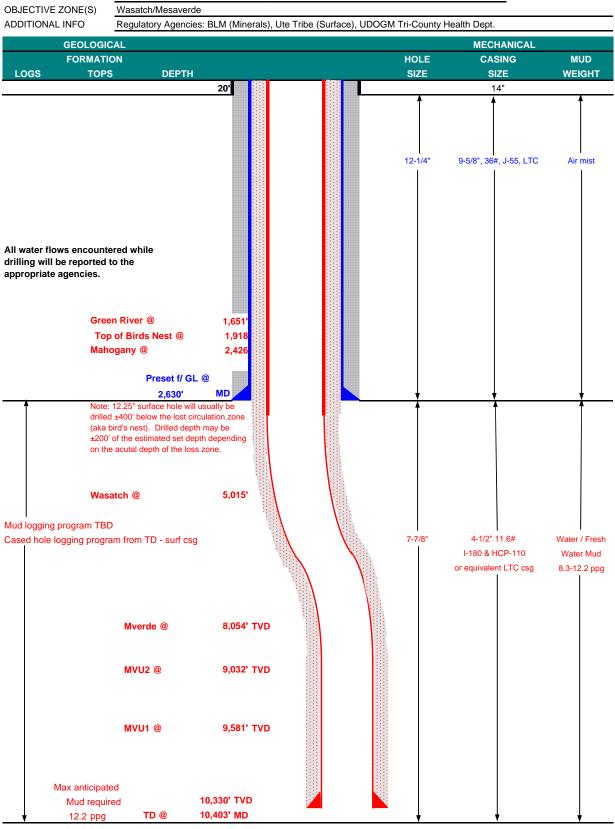
# 10. Other Information:

Please refer to the attached Drilling Program.



# KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME KERR-McGEE OIL & GAS ONSHORE LP DATE July 21, 2009 NBU 921-20D4BS WELL NAME 10,330' TVD 10,403' MD Natural Buttes COUNTY Uintah FINISHED ELEVATION FIELD STATE Utah 4,793' SURFACE LOCATION NW/4 NW/4 963' FNL 1,252' FWL Sec 20 T 9S R 21E Latitude: 40.026194 Longitude: -109.580555 NAD 83 BTM HOLE LOCATION NW/4 NW/4 798' FNL 698' FWL Sec 20 T 9S R 21E Latitude: 40.026648 -109.582536 NAD 83 Longitude: Wasatch/Mesaverde





# KERR-McGEE OIL & GAS ONSHORE LP

# **DRILLING PROGRAM**

#### **CASING PROGRAM**

									DESIGN FACTO	ORS
	SIZE	INTE	RVAL	_	WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0	-40'							
								3,520	2,020	453,000
SURFACE	9-5/8"	0	to	2,630	36.00	J-55	LTC	0.82	1.64	6.09
								7,780	6,350	201,000
PRODUCTION	4-1/2"	0	to	9,723	11.60	I-80	LTC	1.82	1.08	2.05
								10,690	8,650	279,000
	4-1/2"	9,723	to	10,403	11.60	HCP-110	LTC	71.46	1.32	43.48

- 1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))
- 2) MASP (Prod Casing) = Pore Pressure at TD (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 12.2 ppg) 0.22 psi/ft = gradient for partially evac wellbore (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

MASP 4,163 psi

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 12.2 ppg) 0.62 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

MABHP 6,481 psi

#### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	380	0%	15.60	1.18
		+ 2% CaCl + 0.25 pps flocele				
		Premium cmt + 2% CaCl				
SURFACE		NOTE: If well will circulate water to sur	face, optio	n 2 will be ເ	ıtilized	
Option 2 LEAD	2,130'	65/35 Poz + 6% Gel + 10 pps gilsonite	500	35%	12.60	1.81
		+ 0.25 pps Flocele + 3% salt BWOW				
TAIL	500'	Premium cmt + 2% CaCl	180	35%	15.60	1.18
		+ 0.25 pps flocele				
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION LEAD	4,513'	Premium Lite II + 3% KCI + 0.25 pps	430	40%	11.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TAIL	5,890'	50/50 Poz/G + 10% salt + 2% gel	1,440	40%	14.30	1.31
		+ 0.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE

Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe

PRODUCTION

Float shoe, 1 jt, float collar. No centralizers will be used.

# ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Survevs will be taken at 1.000		

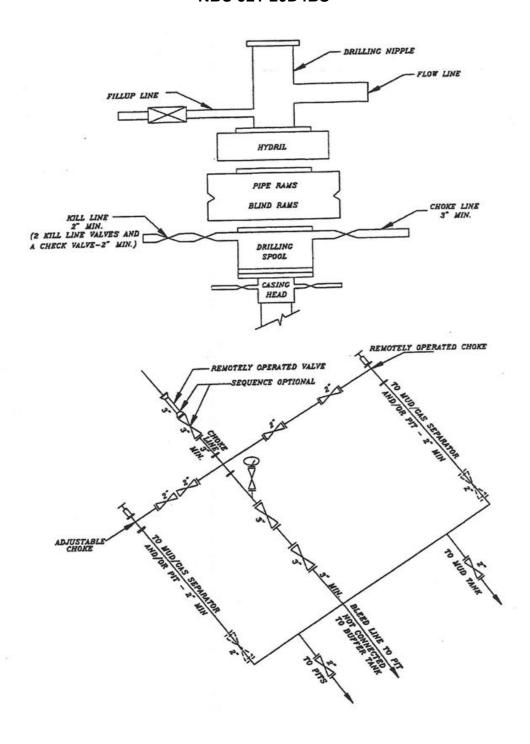
Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:	DATE:		
	John Huycke / Emile Goodwin		
DRILLING SUPERINTENDENT:		DATE:	

John Merkel / Lovel Young

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

EXHIBIT A NBU 921-20D4BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

# WELL PAD INTERFERENCE PLAT

DIRECTIONAL PAD - NBU 921-20B3CS. NBU 921-20D4CS, NBU 921-20D1CS & NBU 921-20D4BS



NBU 921-20B3CS 1144' FNL, 2612' FEL NBU 921-20D4CS

1306' FNL, 770' FWL

NBU 921-20D1CS 346' FNL, 720' FWL

NBU 921-20D4BS 798' FNL, 698' FWL SURFACE POSITION FOOTAGES:

NBU 921-20B3CS 957' FNL, 1312' FWL

NBU 921-20D4CS 959' FNL, 1292' FWL

NBU 921-20D1CS 961' FNL, 1272' FWL

NBU 921-20D4BS 963' FNL, 1252' FWL

Natural Cotton 11-20 (Dry Hole Marker) 1001' FNL, 1019' FWL

Az=84.23833°

S82°04'22"E - 1371.52' (To Bottom Hole)

RELATIVE COORDINATES

From Surface Position to Bottom Hole

NORTH

-189

-346

616'

FAST

1.358

-522'

-553

-555

WFIL

921-20B3CS

921-20D4CS

921-20D1CS

921-20D4BS

to D.H.M.=260.89167 236.7 (Well bore buried, position determined with metal detector)

BASIS OF BEARINGS IS THE WEST LINE OF THE NW 1/4 OF SECTION 20, T9S, R21E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR NO0°03'14"W.

**NBU 92** .H.M.=261.1  $\dot{\Box}$  $\Box$ to to

D.H.M. = Dry Hole Marker

LATITUDE & LONGITUDE  Bottom Hole - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
921-20B3CS	40°01'32.507" 40.025696°	109°34'31.770" 109.575492°
921-20D4CS	40°01'30.914" 40.025254°	109°34'56.188" 109.582274°
921-20D1CS	40°01'40.399" 40.027889°	109*34'56.859" 109.582461*
921-20D4BS	40°01'35.933" 40.026648°	109°34′57.128″ 109.582536°

LATITUDE & LONGITUDE Surface Position - (NAD 83)				
WELL	N. LATITUDE	W. LONGITUDE		
921-20B3CS	40°01'34.359" 40.026211°	109°34'49.230" 109.580342°		
921-20D4CS	40°01'34.338" 40.026205°	109°34'49.487" 109.580413°		
921-20D1CS	40°01'34.318" 40.026199°	109*34'49.743" 109.580484*		
921-20D4BS	40°01'34.299" 40.026194°	109°34'49.999" 109.580555°		
Dry Hole Marker Natural Cotton 11-20	40*01'33.925" 40.026090*	109*34'53.002" 109.581390°		

LONGITUDE	
34'49.230" 9.580342*	
34'49.487" 9.580413°	
34'49.743" 9.580484*	
34'49.999" 9.580555*	
34'53.002" 9.581390°	

LATITUDE & LONGITUDE Surface Position - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
921-20B3CS	40°01'34.486" 40.026246°	109°34'46.747" 109.579652°
921-20D4CS	40°01'34.466" 40.026240°	109°34'47.003" 109.579723°
921-20D1CS	40°01'34.445" 40.026235°	109°34'47.260" 109.579794°
921-20D4BS	40°01'34.426" 40.026229°	109°34'47.516" 109.579865°
Dry Hole Marker Natural Cotton 11-20	40°01'34.053" 40.026126°	109°34'50.519" 109.580700°

LATITUDE & LONGITUDE  Bottom Hole — (NAD 27)				
WELL	N. LATITUDE	W. LONGITUDE		
921-20B3CS	40°01'32.635" 40.025732°	109°34'29.287" 109.574802°		
921-20D4CS	40°01'31.041" 40.025289°	109*34'53.704" 109.581585°		
921-20D1CS	40°01'40.526" 40.027924°	109°34'54.375" 109.581771°		
921-20D4BS	40°01'36.061" 40.026684°	109°34'54.644" 109.581846°		

SCALE

Kerr-McGee

Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS & NBU 921-20D4BS LOCATED IN SECTION 20, T9S, R21E, S.L.B.&M. UINTAH COUNTY, UTAH.

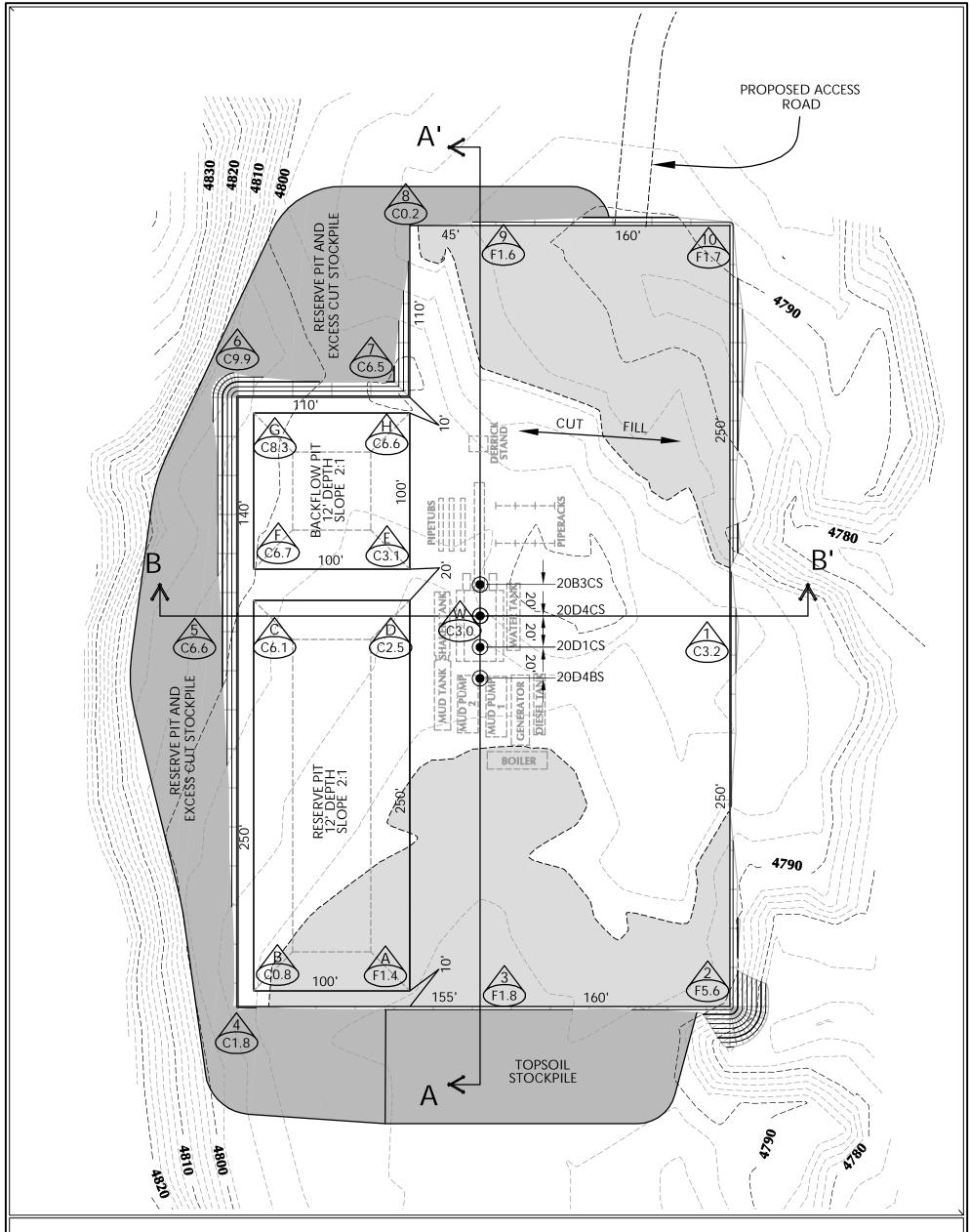


CONSULTING, LLC 371 Coffeen Avenue Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

DATE SURVEYED: 01-16-09	SURVEYED BY: M.S.B.
DATE DRAWN: 02-26-09	DRAWN BY: K.K.O.
	REVISED:

Timberline(435) 789-1365 Engineering & Land Surveying, Inc. 209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET 5 OF 13



# KERR-MCGEE OIL & GAS ONSHORE L.P.

1099 18th Street - Denver, Colorado 80202

WELL PAD - LOCATION LAYOUT NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS & NBU 921-20D4BS LOCATED IN SECTION 20, T.9S., R.21E. S.L.B.&M., UINTAH COUNTY, UTAH



#### CONSULTING, LLC 371 Coffeen Avenue Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

# WELL PAD NBU 921-20D QUANTITIES

EXISTING GRADE @ CENTER OF WELL PAD = 4796.4'
FINISHED GRADE ELEVATION = 4793.4'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 9,912 C.Y.
TOTAL FILL FOR WELL PAD = 4,910 C.Y.
TOPSOIL @ 6" DEPTH = 2,886 C.Y.
EXCESS MATERIAL = 5,002 C.Y.
TOTAL DISTURBANCE = 3.58 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00
RESERVE PIT CAPACITY (2" OF FREEBOARD)
+/- 28,730 BARRELS
RESERVE PIT VOLUME
+/- 7,720 CY
BACKFLOW PIT CAPACITY (2" OF FREEBOARD)
+/- 9,490 BARRELS
BACKFLOW PIT VOLUME
+/- 2,660 CY

# | Scale: 1"=60' | Date: 3/17/09 | SHEET NO: 6 | 6 OF 13

# WELL PAD LEGEND

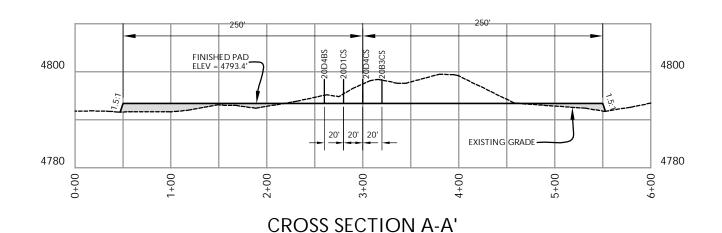


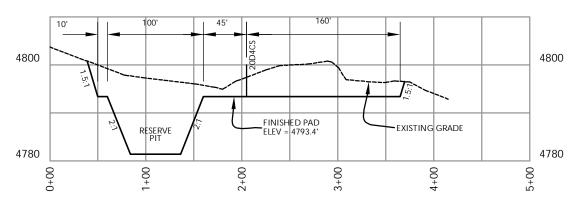
EXISTING WELL LOCATION
PROPOSED WELL LOCATION
EXISTING CONTOURS (2' INTERVAL)
PROPOSED CONTOURS (2' INTERVAL)



HORIZONTAL 0 30 60 1" = 60'
2' CONTOURS

Timberline (435) 789-1365
Engineering & Land Surveying, Inc.
38 WEST 100 NORTH VERNAL, UTAH 84078





# **CROSS SECTION B-B'**

NOTE: CROSS SECTION B-B' DEPICTS MAXIMUM RESERVE PIT DEPTH.

# KERR-MCGEE OIL & GAS ONSHORE L.P.

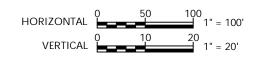
1099 18th Street - Denver, Colorado 80202

WELL PAD - CROSS SECTIONS NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS & NBU 921-20D4BS LOCATED IN SECTION 20, T.9S., R.21E. S.L.B.&M., UINTAH COUNTY, UTAH

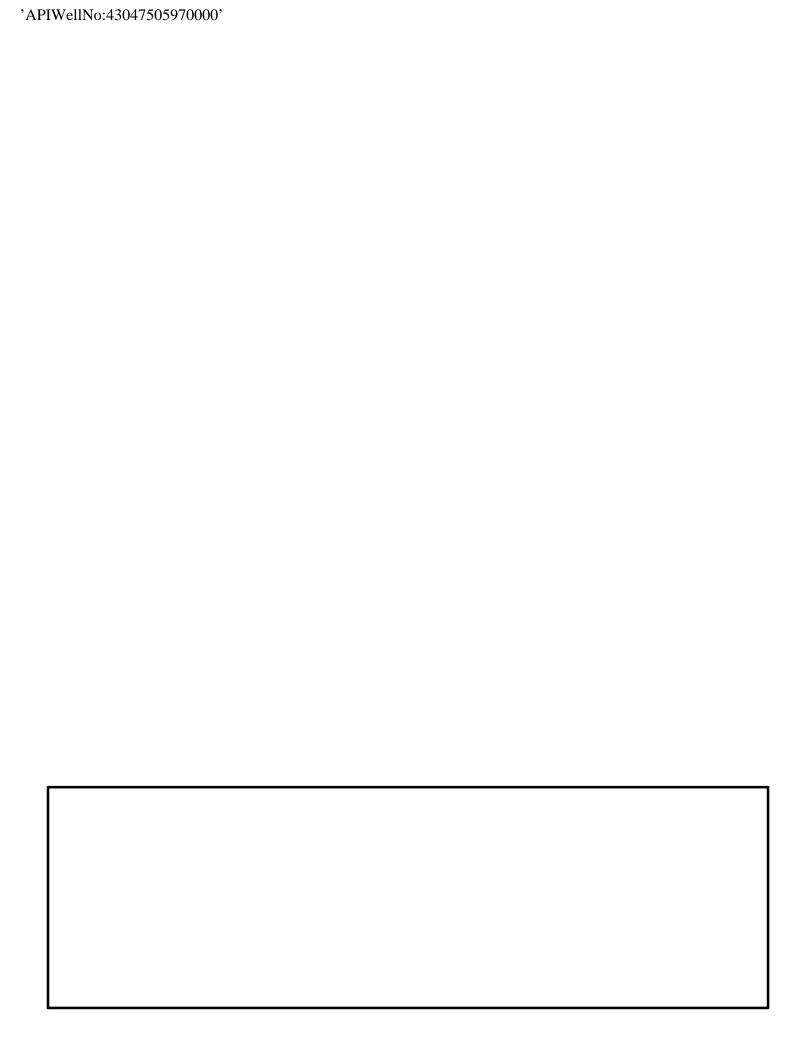


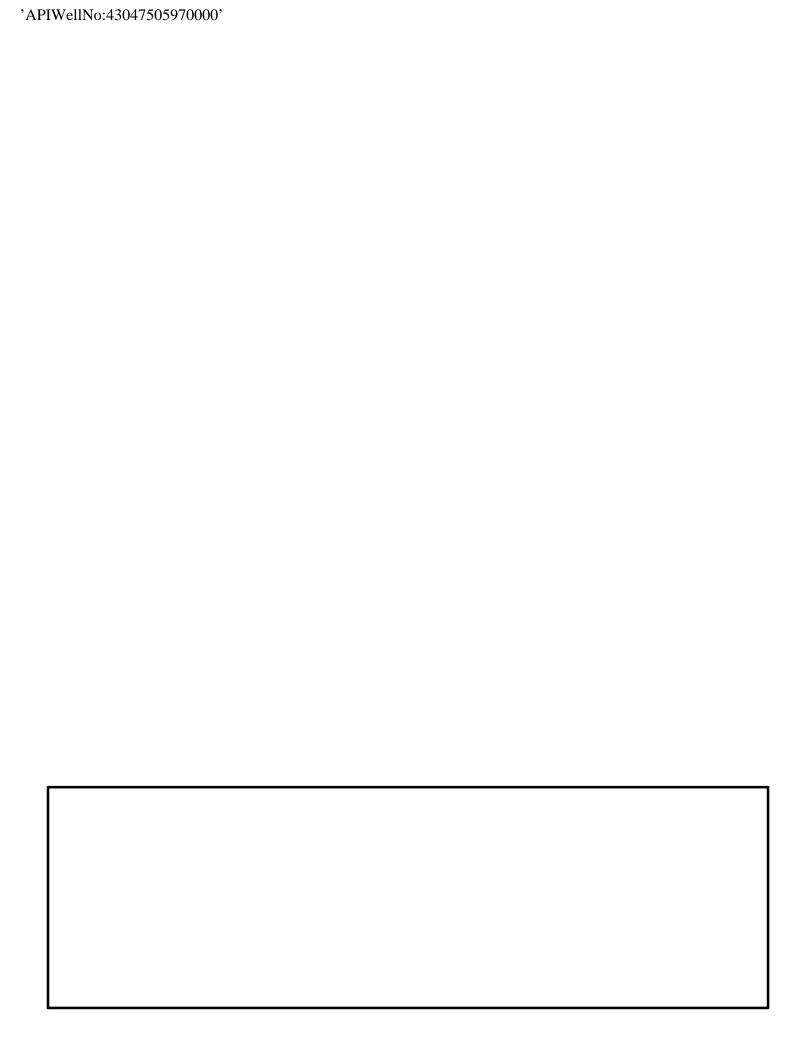
CONSULTING, LLC 371 Coffeen Avenue Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

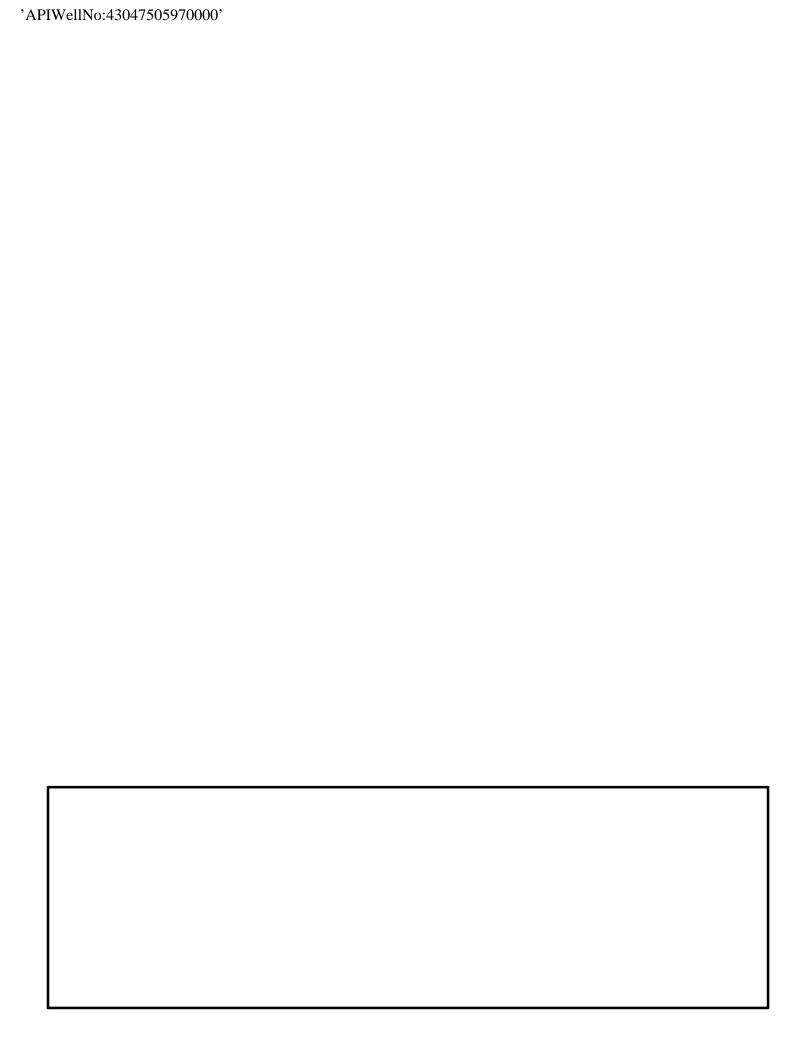
j	Scale:	1"=100'	Date:	3/17/09	SHEET NO:		Ī
	REVISED:				7	7 OF 13	

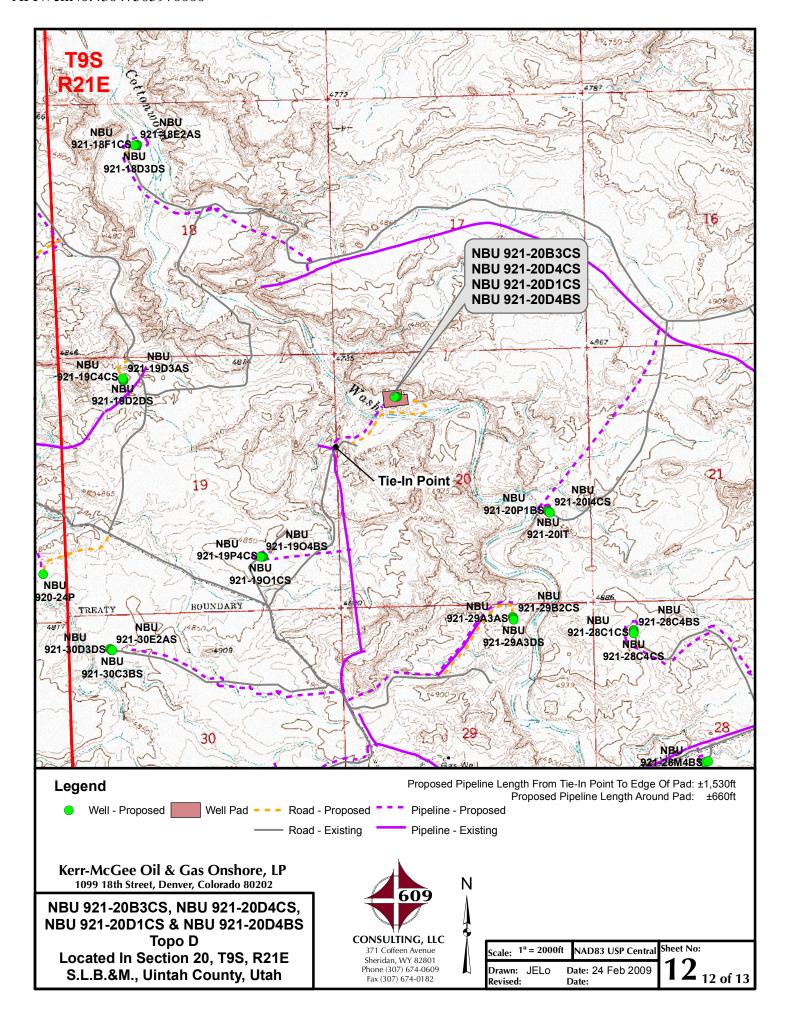


Timberline (435) 789-1365 Engineering & Land Surveying, Inc. 38 WEST 100 NORTH VERNAL, UTAH 84078









PIWellNo-43047505070000'

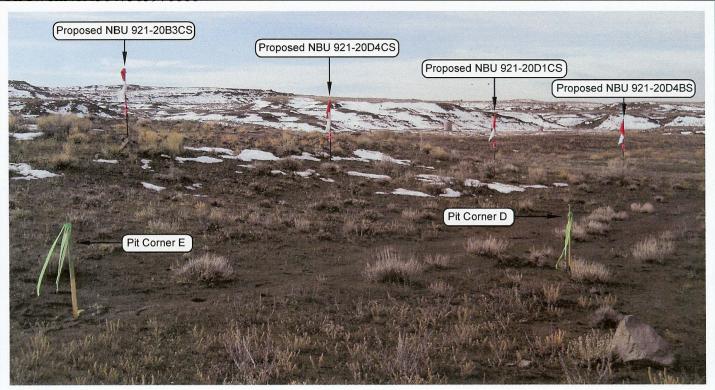


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES

CAMERA ANGLE: SOUTHERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: NORTHEASTERLY

Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS & NBU 921-20D4BS LOCATED IN SECTION 20, T9S, R21E, S.L.B.&M. UINTAH COUNTY, UTAH.



CONSULTING, LLC 371 Coffeen Avenue Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

# LOCATION PHOTOS

DATE TAKEN: 01-16-09 DATE DRAWN: 02-26-09

TAKEN BY: M.S.B.

DRAWN BY: E.M.S.

REVISED:

Timberline

(435) 789-1365 Engineering & Land Surveying, Inc. 209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET

8 **OF 13** 

# Kerr-McGee Oil & Gas Onshore, LP NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS, & NBU 921-20D4BS Section 20, T9S, R21E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 5.3 MILES TO THE INTERSECTION OF A SERVICE ROAD TO THE EAST. EXIT LEFT AND PROCEED IN A NORTHEASTERLY THEN SOUTHEASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 5.1 MILES TO A SECOND SERVICE ROAD TO THE NORTHEAST. EXIT LEFT AND PROCEED IN A NORTH BY NORTHEAST DIRECTION ALONG THE SECOND SERVICE ROAD APPROXIMATELY 0.8 MILES TO THE TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A NORTHEASTERLY, THEN EASTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 2,390 FEET TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE WELL LOCATION IS APPROXIMATELY 42.4 MILES IN A SOUTHERLY DIRECTION.

# **NBU 921-20B3CS**

Surface: 957' FNL 1,312' FWL (NW/4NW/4) BHL: 1,144' FNL 2,612' FEL (NW/4NE/4)

# **NBU 921-20D1CS**

Surface: 961' FNL 1,272' FWL (NW/4NW/4) BHL: 346' FNL 720' FWL (NW/4NW/4)

# **NBU 921-20D4BS**

Surface: 963' FNL 1,252' FWL (NW/4NW/4) BHL: 798' FNL 698' FWL (NW/4NW/4)

# **NBU 921-20D4CS**

Surface: 959' FNL 1,292' FWL (NW/4NW/4) BHL: 1,306' FNL 770' FWL (NW/4NW/4)

> Pad: NBU 921-20D Sec. 20 T9S R21E

Uintah, Utah Mineral Lease: UTU 0575

Surface Owner: Ute Indian Tribe

# ONSHORE ORDER NO. 1

# MULTI-POINT SURFACE USE & OPERATIONS PLAN SUBMITTED WITH SITE-SPECIFIC INFORMATION

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) documents. An NOS was submitted showing the surface locations in NW/4 NW/4 of Section 20 T9S R21E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BIA-Ft Duchesne Office.

An on-site meeting was held on June 24, 2009. Present were:

- Verlyn Pindell and Dave Gordon BLM;
- Bucky Secakuku BIA
- Kolby Kay and Mitch Batty Timberline Surveying, Inc.
- Nick Hall Grasslands Consulting, Inc.
- Scott Carson Smiling Lake Consulting
- Keith Montgomery Montgomery Archaeological Consultants, Inc.
- Tony Kazeck, Jeff Samuels, Raleen White, David Liddell, and Hal Blanchard Kerr-McGee

# NBU 921-20B3CS / 20D1CS / 20D4BS / 20D4CS

# **Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

# 1. <u>Existing Roads</u>:

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

# 2. Planned Access Roads:

See MDP for additional details on road construction.

Approximately  $\pm 2,390$ ' ( $\pm 0.45$  miles) of new access road is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.

Per the onsite meeting, Kerr-McGee will construct a low-water crossing on the Cottonwood Wash for the access road (100-year flood standards).

# 3. Location of Existing Wells Within a 1-Mile Radius:

Please refer to Topo Map C.

# 4. <u>Location of Existing and Proposed Facilities</u>:

See MDP for additional details on Existing and Proposed Facilities.

*The following guidelines will apply if the well is productive.* 

Approximately  $\pm 2,190$ ' ( $\pm 0.41$  miles) of pipeline is proposed. Refer to Topo D for the existing pipeline. Appropriate surface use agreements have been or will be obtained from the Ute Indian Tribe. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place.

Per the onsite meeting, the following items were requested:

- The equipment (new and old infrastructure) will be painted Shadow Grey.
- A 404 permit will be obtained from the Core of Engineers to bury the proposed pipeline, as well as the existing pipeline, under the Cottonwood Wash.

# 5. Location and Type of Water Supply:

See MDP for additional details on Location and Type of Water Supply.

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

# NBU 921-20B3CS / 20D1CS / 20D4BS / 20D4CS

No water well is to be drilled on this lease.

# **6.** Source of Construction Materials:

See MDP for additional details on Source of Construction Materials.

# 7. Methods of Handling Waste Materials:

See MDP for additional details on Methods of Handling Waste Materials.

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E

NBU #159 in Sec. 35 T9S R21E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E

Tipeline Facility in Sec. 30 193 K20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

# 8. Ancillary Facilities:

See MDP for additional details on Ancillary Facilities.

None are anticipated.

# **9.** Well Site Layout: (See Location Layout Diagram)

See MDP for additional details on Well Site Layout.

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

# 10. Plans for Reclamation of the Surface:

See MDP for additional details on Plans for Reclamation of the Surface.

Kerr-McGee shall call the BIA for the seed mixture prior to starting interim and/or final reclamation actions.

# NBU 921-20B3CS / 20D1CS / 20D4BS / 20D4CS

# 11. <u>Surface/Mineral Ownership:</u>

The well pad and access road are located on lands owned by:

Ute Indian Tribe PO Box 70 Fort Duchesne, Utah 84026 435-722-5141

The mineral ownership is listed below:

United States of America Bureau of Land Management 170 South 500 East Vernal, UT 84078 435-781-4400

# 12. <u>Other Information</u>:

See MDP for additional details on Other Information.

Per the onsite meeting, the following items were requested:

- A raptor survey will be completed if the wells are not constructed during 2009. This survey is to be conducted on the raptor nest east of the location.
- Archeological monitoring during construction.

# 'APIWeIINo:43047505970000

# 13. Lessee's or Operators' Representative & Certification:

Kathy Schneebeck Dulnoan Regulatory Analyst Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6007 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720-929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Karty Scholk Duck	July 22, 2009
Kathy Schneebeck Dulnoan	Date

# Kerr-McGee Oil & Gas Onshore LP



1099 18th Street, Suite 1800 Denver, CO 80202-1918 P.O. Box 173779 Denver, CO 80217-3779 720-929-6000

April 13, 2009

Ms. Diana Mason Utah Department of Oil, Gas & Mining P.O. Box 145801 Salt Lake City, Utah 54114-5801

Re: Directional Application NBU 921-20B3CS NBU 921-20D4CS NBU 921-20D1CS NBU 921-20D4BS Uintah County, Utah Natural Buttes Unit

Dear Ms. Mason:

Pursuant to the filing of NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS, NBU 921-20D4BS wells, Application to Drill, regarding the above referenced Mesaverde wells on April 13, 2009, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

EOG Resources, Inc. has received notification of the planned directional wells and consents to the directional drilling plan.

By:

Name: Title:

J. Michael Schween Land Manager

EOG Resources, Inc.

cras

# CLASS I REVIEW OF KERR-MCGEE OIL & GAS ONSHORE LP'S 50 PROPOSED WELL LOCATIONS IN T9S, R21E SECS. 19, 20, 21, 23, 28, 29 AND 30 UINTAH COUNTY, UTAH

By:

Jacki A. Montgomery

Prepared For:

Ute Tribal Land Uintah and Ouray Agency

Bureau of Land Management Vernal Field Office

Prepared Under Contract With:

Kerr-McGee Oil & Gas Onshore LP 1368 South 1200 East Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc. P.O. Box 219 Moab, Utah 84532

MOAC Report No. 09-11

February 23, 2009

United States Department of Interior (FLPMA)
Permit No. 08-UT-60122

Public Lands Policy Coordination Office Archaeological Survey Permit No. 117

Ute Tribal Permit No. A08-363

# Paleontological Assessment for Anadarko Petroleum Corp.

NBU 921-20B3CS, D4CS, D1CS, D4BS Ouray SE Quadrangle Uintah County, Utah

Prepared for

Anadarko Petroleum Corp.
and
Ute Tribe
Uintah and Ouray Reservation

Prepared by

**SWCA Environmental Consultants** 

SWCA #UT09-14314-34



# **Grasslands Consulting, Inc.**

4800 Happy Canyon Road, Suite 110, Denver, CO 80237 (303) 759-5377 Office (303) 759-5324 Fax

# SPECIAL STATUS PLANT AND WILDLIFE SPECIES REPORT

**Operator:** Kerr-McGee Oil & Gas Onshore LP

Wells: NBU 921-20D1CS, NBU 921-20D4BS, NBU 921-20D4CS, NBU 921-20B3CS

**Pipelines:** Associated Pipelines to proposed well pad

Access Roads: Associated access roads to proposed well pad

Location: Section 20, Township 9 South, Range 21 East; Uintah County, Utah

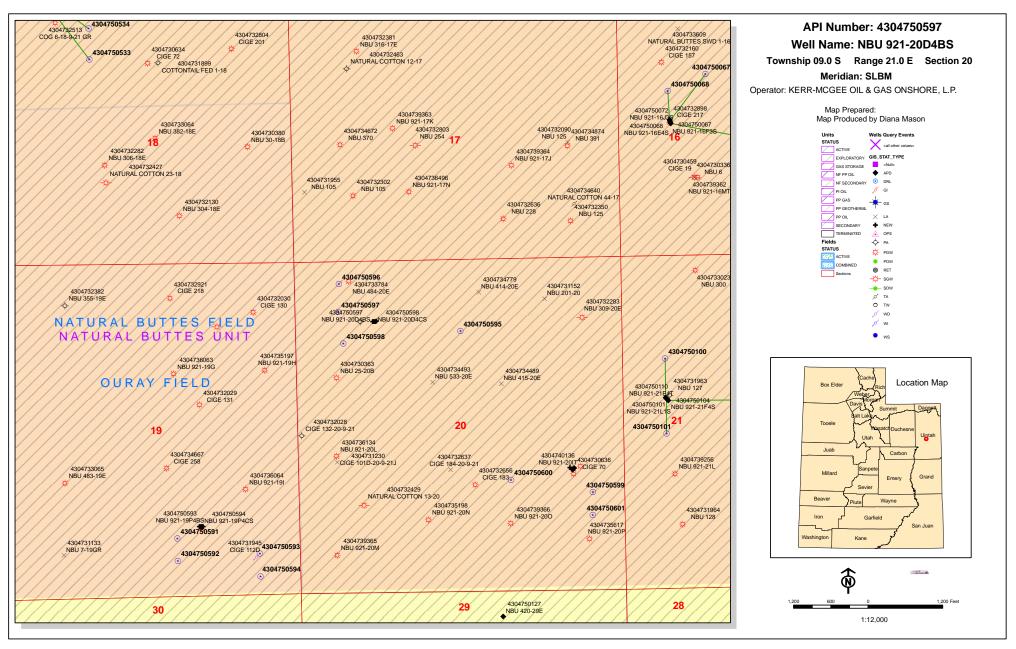
Survey-Species: Uinta Basin Hookless Cactus (Sclerocactus wetlandicus) and nesting raptors

**Date:** 06/25/2009

Observer(s): Grasslands Consulting, Inc. Biologists: Nick Hall, BJ Lukins, Jay Slocum, Matt

Kelahan, and Jonathan Sexauer. Technician: Chad Johnson,

**Weather:** Partly cloudy, 75-80°F, 0-5 mph winds with no precipitation.



# **United States Department of the Interior**

# BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

July 24, 2009

#### Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2009 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

BHL Sec 20 T09S R21E 0346 FNL 0720 FWL

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

 43-047-50590
 NBU
 920-14H
 Sec
 14
 T09S
 R20E
 1562
 FNL
 0500
 FEL

 43-047-50589
 NBU
 920-14G
 Sec
 14
 T09S
 R20E
 2444
 FNL
 1947
 FEL

 43-047-50591
 NBU
 921-1901CS
 Sec
 19
 T09S
 R21E
 1078
 FSL
 1614
 FEL

 43-047-50592
 NBU
 921-1904BS
 Sec
 19
 T09S
 R21E
 1079
 FSL
 1594
 FEL

 43-047-50593
 NBU
 921-19P4BS
 Sec
 19
 T09S
 R21E
 1082
 FSL
 1554
 FEL

 43-047-50594
 NBU
 921-19P4CS
 Sec
 19
 T09S
 R21E
 1080
 FSL
 1574
 FEL

 43-047-50595
 NBU
 921-20B3CS
 Sec
 19
 T09S
 R21E
 1080
 FSL
 1574
 FEL

 43-047-50596
 NBU
 921-20D1CS
 Sec
 20
 T09S
 R21E
 0957
 FNL
 1312
 FWL

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Page 2

43-047-50597 NBU 921-20D4BS Sec 20 T09S R21E 0963 FNL 1252 FWL BHL Sec 20 T09S R21E 0798 FNL 0698 FWL 43-047-50598 NBU 921-20D4CS Sec 20 T09S R21E 0959 FNL 1292 FWL BHL Sec 20 T09S R21E 1306 FNL 0770 FWL 43-047-50599 NBU 921-20I4CS Sec 20 T09S R21E 1873 FSL 0843 FEL BHL Sec 20 T09S R21E 1507 FSL 0527 FEL 43-047-50600 NBU 920-20J4BS Sec 20 T09S R21E 1507 FSL 0891 FEL BHL Sec 20 T09S R21E 1734 FSL 1839 FEL 83-047-50601 NBU 921-20P1BS Sec 20 T09S R21E 1885 FSL 0859 FEL BHL Sec 20 T09S R21E 1140 FSL 0538 FEL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Natural Buttes Unit
 Division of Oil Gas and Mining
 Central Files
 Agr. Sec. Chron
 Fluid Chron

MCoulthard:mc:7-24-09

# WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED:	7/22/2009		API NO. ASSIGNED:	43047505970000
WELL NAME:	NBU 921-20D4BS			
OPERATOR:	KERR-MCGEE OIL & GAS ON	NSHORE, L.P. (N2995)	PHONE NUMBER:	720 929-6156
CONTACT:	Danielle Piernot			
PROPOSED LOCATION:	NWNW 20 090S 210E		Permit Tech Review:	
SURFACE:	0963 FNL 1252 FWL		Engineering Review:	
воттом:	0798 FNL 0698 FWL		Geology Review:	
COUNTY:	UINTAH			
LATITUDE:	40.02609		LONGITUDE:	-109.57981
UTM SURF EASTINGS:	621186.00		NORTHINGS:	4431409.00
FIELD NAME:	NATURAL BUTTES			
LEASE TYPE:	1 - Federal			
LEASE NUMBER:	UTU 0575 PROPOS	SED PRODUCING FORM	MATION(S): WASATCH-MES	A VERDE
SURFACE OWNER:	2 - Indian		COALBED METHANE:	NO
RECEIVED AND/OR REVIE	EWED:	LOCATION AND SIT	ING:	
<b></b> PLAT		R649-2-3.		
<b>▶ Bond:</b> FEDERAL - WYB	000291	Unit: NATURAL BU	JTTES	
Potash		R649-3-2. Gene	eral	
<b>✓</b> Oil Shale 190-5				
Oil Shale 190-3		R649-3-3. Exce	ption	
Oil Shale 190-13		✓ Drilling Unit		
<b>✓ Water Permit:</b> Permit	#43-8496	Board Cause I	No: Cause 173-14	
RDCC Review:		Effective Date	12/2/1999	
Fee Surface Agreeme	ent	Siting: 460' fr	u bdry & uncomm. tract	
<b>✓</b> Intent to Commingle	l .	<b>r</b> R649-3-11. Dir	ectional Drill	
Commingling Approved	d			
Comments: Presite C	Completed			
Stipulations: 3 - Com	ımingling - ddoucet			

3 - Commingling - ddoucet 4 - Federal Approval - dmason 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason API Well No: 43047505970000



### State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER

Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

### Permit To Drill

\*\*\*\*\*\*

Well Name: NBU 921-20D4BS **API Well Number:** 43047505970000

**Lease Number:** UTU 0575 **Surface Owner:** INDIAN **Approval Date:** 8/10/2009

### **Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

### **Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

### **Commingle:**

In accordance with Cause No. 173-14 commingling the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

### **Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at http://oilgas.ogm.utah.gov

### **Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) due prior to implementation
- Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
- Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

**Approved By:** 

Gil Hunt

Associate Director, Oil & Gas

Die Hunt

SUNDRY NOTICES AND REPORTS ON WELLS  DO NOT USE THIS FORT OF DOCUMENT AND REPORTS ON WELLS  DO NOT USE THIS FORT OF PROPOSALS IS d'III INNEW MELLS, SIGNIFICATIVE ASSESSATION AND SERTAL NUMBER.  TUTYER OF WELL  Gas Well  S. ALTER CASCARDER SERVICE  AND PROPOSALS AND MELLS  DE NOTICE OF SURPLINESS.  L'IVER OF WELL  CAS WELL  AND TO CA AGREEMENT NAME: NEU 921-20048S			FORM 9			
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Dotton-hold depth, receiver plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO  ANTICAL DUTY or CA AGREEMEN NAME: NATURAL BUTTES  1. TYPE OF WELL GAS Well  2. NAME OF DEPENTOR: KERN-MCGEE DI US & GAS ONSHORE, L.P.  3. ADDRESS OF OPERATOR: KERN-MCGEE DI US & GAS ONSHORE, L.P.  3. ADDRESS OF OPERATOR: KERN-MCGEE DI US & GAS ONSHORE, L.P.  3. ADDRESS OF OPERATOR: KERN-MCGEE DI US & GAS ONSHORE, L.P.  3. ADDRESS OF OPERATOR: KERN-MCGEE DI US & GAS ONSHORE, L.P.  3. ADDRESS OF OPERATOR: KERN-MCGEE DI US & GAS ONSHORE, L.P.  3. ADDRESS OF OPERATOR: KERN-MCGEE DI US & GAS ONSHORE, L.P.  4. ALOCATION OF WELL GOOTAGES AT SURFACE: OPERATOR. OPERATOR. OPERATOR. TYPE OF SUBMISSION  TYPE OF SUBMISSION  TYPE OF SUBMISSION  TYPE OF ACTION  ANTICE OF INTERT APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  TYPE OF SUBMISSION  TYPE OF MCTION  ANTICE OF INTERT APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  TYPE OF MCTION  ANTICE OF INTERT APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  TYPE OF SUBMISSION  TYPE OF ACTION  TYPE OF ACTION  TYPE OF MCTION  TYPE OF						
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ADDRESS OF OPERATOR: P.O. Bos 17379 1099 18th Street, Suite 600, Denver, CO, 80217 3779  **ADORTOR OF WELL OBSS FINI 1252 FINI OBSS FINI 1252 FINI OTRY/OTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: QLY/QLY: NWNW Section: 20 Township: 09.05 Range: 21.06 Meridian: 5  11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  **ADORESS OF MERIDIAN: QLY/QLY: NWNW Section: 20 Township: 09.05 Range: 21.06 Meridian: 5  11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  **ATTE: UTATE:						
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Danielle Piernot 720 929-6156 Regulatory Analyst  SIGNATURE DATE						

### **NBU 921-20B3CS**

Surface: 957' FNL 1,312' FWL (NW/4NW/4) BHL: 1,144' FNL 2,612' FEL (NW/4NE/4)

### **NBU 921-20D1CS**

Surface: 961' FNL 1,272' FWL (NW/4NW/4) BHL: 346' FNL 720' FWL (NW/4NW/4)

### **NBU 921-20D4BS**

Surface: 963' FNL 1,252' FWL (NW/4NW/4) BHL: 798' FNL 698' FWL (NW/4NW/4)

### **NBU 921-20D4CS**

Surface: 959' FNL 1,292' FWL (NW/4NW/4) BHL: 1,306' FNL 770' FWL (NW/4NW/4)

> Pad: NBU 921-20D Sec. 20 T9S R21E

Uintah, Utah Mineral Lease: UTU 0575

Surface Owner: Ute Indian Tribe

### ONSHORE ORDER NO. 1

### MULTI-POINT SURFACE USE & OPERATIONS PLAN SUBMITTED WITH SITE-SPECIFIC INFORMATION

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) documents. An NOS was submitted showing the surface locations in NW/4 NW/4 of Section 20 T9S R21E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BIA-Ft Duchesne Office.

An on-site meeting was held on June 24, 2009. Present were:

- Verlyn Pindell and Dave Gordon BLM;
- Bucky Secakuku BIA
- Kolby Kay and Mitch Batty Timberline Surveying, Inc.
- Nick Hall Grasslands Consulting, Inc.
- Scott Carson Smiling Lake Consulting
- Keith Montgomery Montgomery Archaeological Consultants, Inc.
- Tony Kazeck, Jeff Samuels, Raleen White, David Liddell, and Hal Blanchard Kerr-McGee

### **Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

### 1. Existing Roads:

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

### 2. Planned Access Roads:

See MDP for additional details on road construction.

Approximately  $\pm 1,945$ ' ( $\pm 0.37$  miles) of new access road is proposed. Another  $\pm 430$ ' ( $\pm 0.08$  miles) of new access road is proposed for concurrent access to the NBU 921-20F proposed well. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.

Per the onsite meeting, Kerr-McGee will construct a low-water crossing on the Cottonwood Wash for the access road (100-year flood standards).

### 3. <u>Location of Existing Wells Within a 1-Mile Radius:</u>

Please refer to Topo Map C.

### 4. Location of Existing and Proposed Facilities:

See MDP for additional details on Existing and Proposed Facilities.

*The following guidelines will apply if the well is productive.* 

Approximately  $\pm 2,240$ ' ( $\pm 0.42$  miles) of pipeline is proposed. Refer to Topo D for the existing pipeline. Appropriate surface use agreements have been or will be obtained from the Ute Indian Tribe. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place.

Per the onsite meeting, the following items were requested:

- The equipment (new and old infrastructure) will be painted Shadow Grey.
- A 404 permit will be obtained from the Core of Engineers to bury the proposed pipeline, as well as the existing pipeline, under the Cottonwood Wash.

### 5. Location and Type of Water Supply:

See MDP for additional details on Location and Type of Water Supply.

Water for drilling purposes will be obtained from one of the following sources:

• Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.

• Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

No water well is to be drilled on this lease.

### **6.** Source of Construction Materials:

See MDP for additional details on Source of Construction Materials.

### 7. Methods of Handling Waste Materials:

See MDP for additional details on Methods of Handling Waste Materials.

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E

NBU #159 in Sec. 35 T9S R21E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

### 8. Ancillary Facilities:

See MDP for additional details on Ancillary Facilities.

None are anticipated.

### **9. Well Site Layout:** (See Location Layout Diagram)

See MDP for additional details on Well Site Layout.

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

### 10. Plans for Reclamation of the Surface:

See MDP for additional details on Plans for Reclamation of the Surface.

Kerr-McGee shall call the BIA for the seed mixture prior to starting interim and/or final reclamation actions.

### 11. <u>Surface/Mineral Ownership</u>:

The well pad and access road are located on lands owned by:

Ute Indian Tribe PO Box 70 Fort Duchesne, Utah 84026 435-722-5141

The mineral ownership is listed below:

United States of America Bureau of Land Management 170 South 500 East Vernal, UT 84078 435-781-4400

### 12. Other Information:

See MDP for additional details on Other Information.

Per the onsite meeting, the following items were requested:

- A raptor survey will be completed if the wells are not constructed during 2009. This survey is to be conducted on the raptor nest east of the location.
- Archeological monitoring during construction.

# RECEIVED September 08, 2009

### 13. Lessee's or Operators' Representative & Certification:

Kathy Schneebeck Dulnoan Regulatory Analyst Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6007 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720-929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

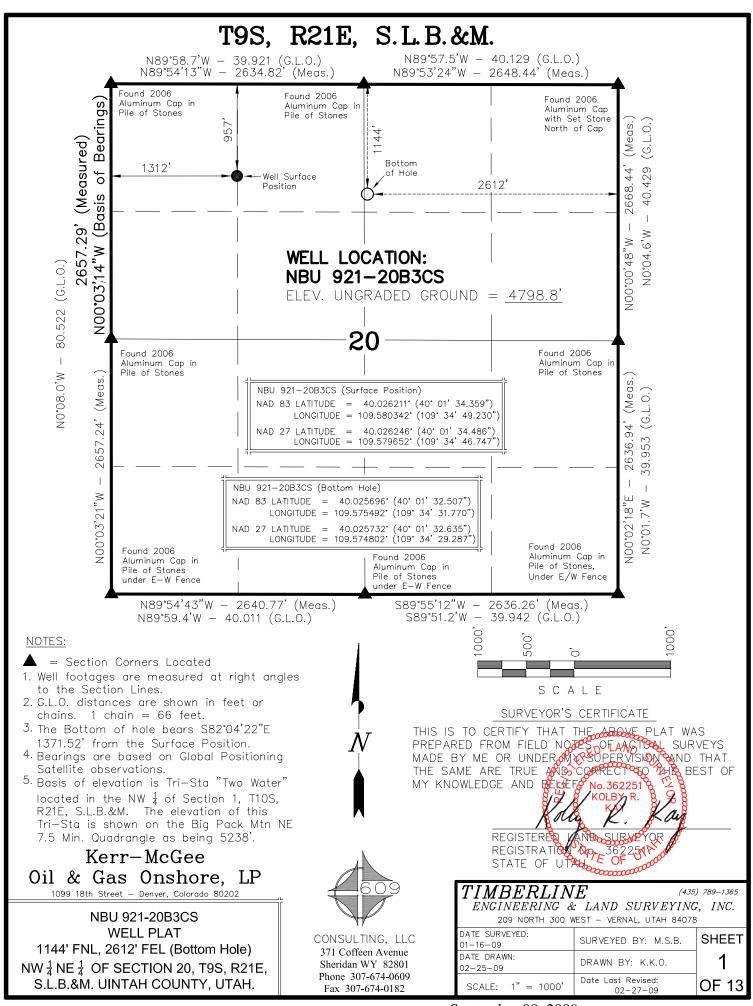
The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

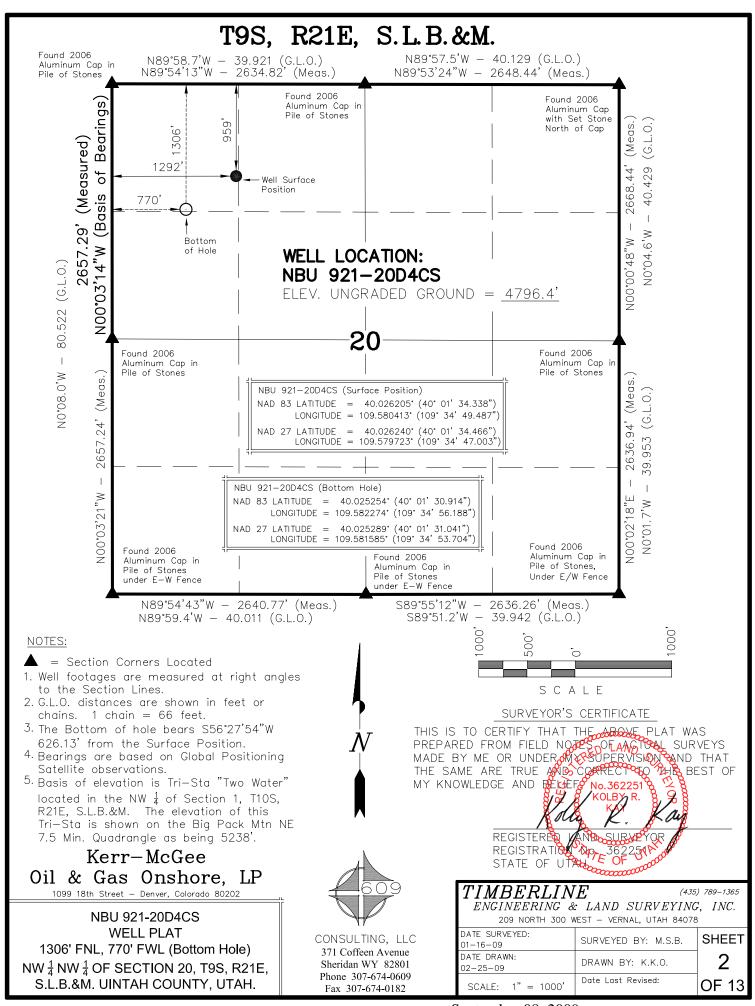
Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

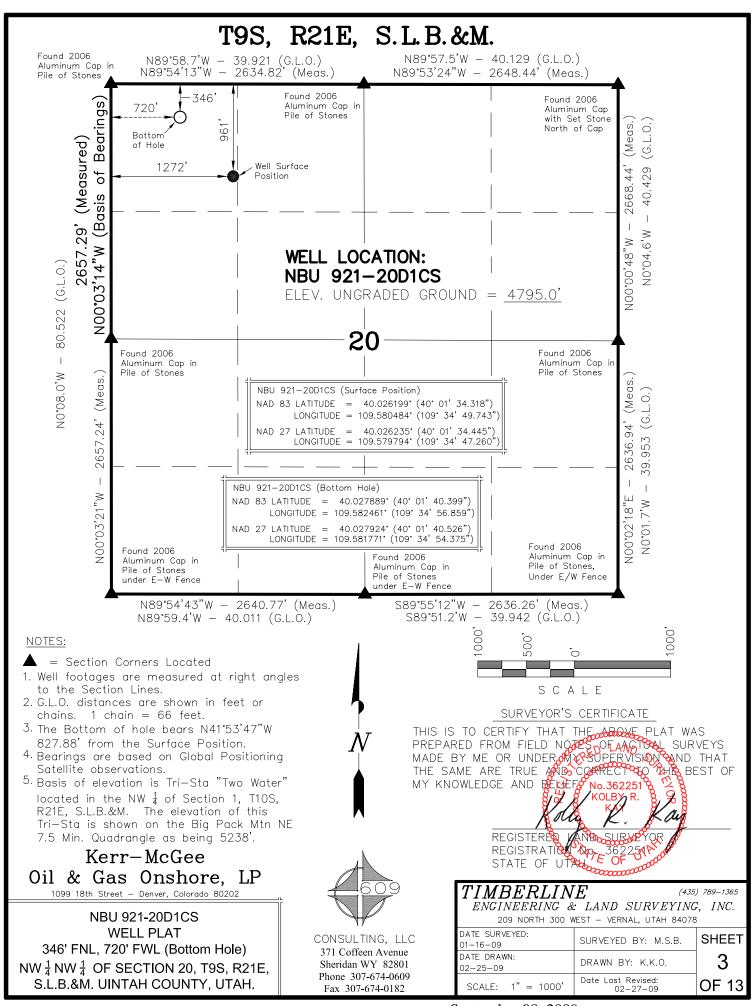
Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

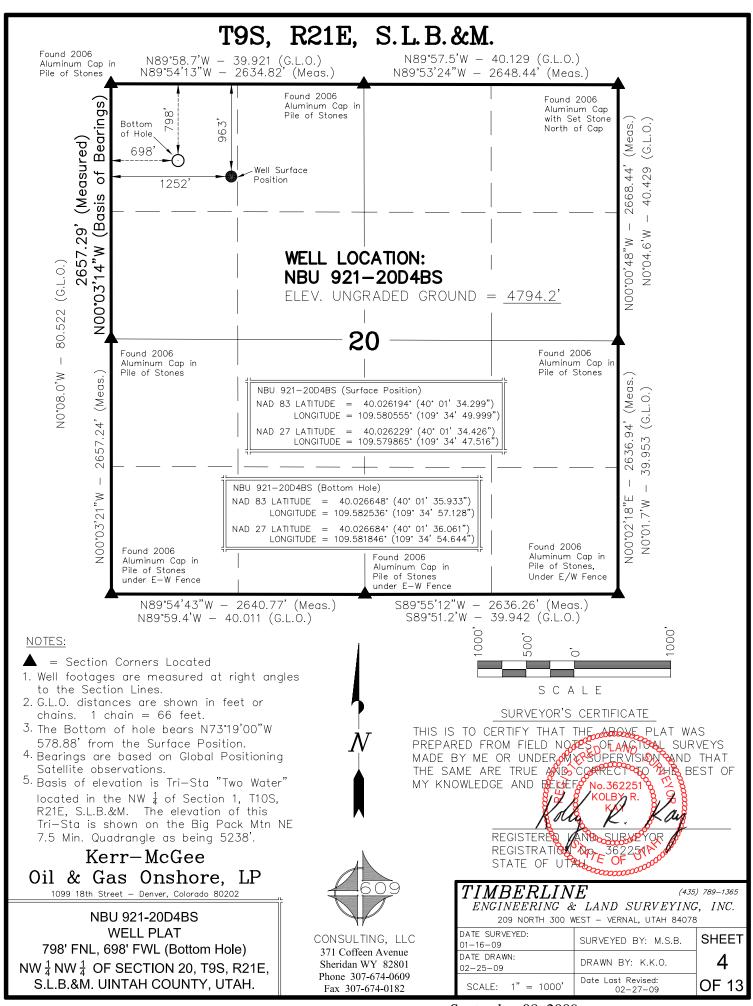
I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Koy/ Schol Dull	September 8, 2009
Kathy Schneebeck Dulnoan	Date



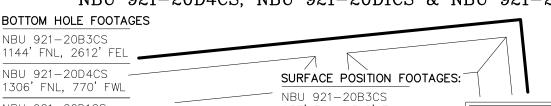






### WELL PAD INTERFERENCE PLAT

DIRECTIONAL PAD - NBU 921-20B3CS. NBU 921-20D4CS, NBU 921-20D1CS & NBU 921-20D4BS



NBU 921-20D1CS 346' FNL, 720' FWL

NBU 921-20D4BS 798' FNL, 698' FWL 957' FNL, 1312' FWL NBU 921-20D4CS 959' FNL, 1292' FWL

NBU 921-20D1CS 961' FNL, 1272' FWL

NBU 921-20D4BS 963' FNL, 1252' FWL

Natural Cotton 11-20 (Dry Hole Marker) .1001' FNL, 1019' FWL

Az=84.23833°

FAST

1.358

-522'

-553

-555

S82°04'22"E - 1371.52" (To Bottom Hole)

RELATIVE COORDINATES

From Surface Position to Bottom Hole

NORTH

-189

-346

616'

WFII

921-20B3CS

921-20D4CS

921-20D1CS

921-20D4BS

to D.H.M.=260.89167 236.7 (Well bore buried, position determined with metal detector)

BASIS OF BEARINGS IS THE WEST LINE OF THE NW 1/4 OF SECTION 20, T9S, R21E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR NO0°03'14"W.

**NBU 921**-.H.M.=261.17  $\Box$ to to

D.H.M. = Dry Hole Marker

LATITUDE & LONGITUDE Bottom Hole - (NAD 83)						
WELL	N. LATITUDE	W. LONGITUDE				
921-20B3CS	40°01'32.507" 40.025696°	109°34'31.770" 109.575492°				
921-20D4CS	40°01'30.914" 40.025254°	109°34'56.188" 109.582274°				
921-20D1CS	40°01'40.399" 40.027889°	109*34'56.859" 109.582461*				
921-20D4BS	40°01'35.933" 40.026648°	109°34'57.128" 109.582536°				

LATITUDE & LONGITUDE Surface Position - (NAD 83)						
WELL	N. LATITUDE	W. LONGITUDE				
921-20B3CS	40°01'34.359" 40.026211°	109°34'49.230" 109.580342°				
921-20D4CS	40°01'34.338" 40.026205°	109°34'49.487" 109.580413°				
921-20D1CS	40°01'34.318" 40.026199°	109*34'49.743" 109.580484*				
921-20D4BS	40°01'34.299" 40.026194°	109°34'49.999" 109.580555°				
Dry Hole Marker Natural Cotton 11—20	40°01'33.925" 40.026090°	109°34'53.002" 109.581390°				

LATITUDE & LONGITUDE Surface Position — (NAD 27)						
WELL	N. LATITUDE W. LONGITUDE					
921-20B3CS	40°01'34.486" 40.026246°	109°34'46.747" 109.579652°				
921-20D4CS	40°01'34.466" 40.026240°	109°34'47.003" 109.579723°				
921-20D1CS	40*01'34.445" 40.026235*	109*34'47.260" 109.579794*				
921-20D4BS	40°01'34.426" 40.026229°	109°34'47.516" 109.579865°				
Dry Hole Marker Natural Cotton 11-20	40°01'34.053" 40.026126°	109*34'50.519" 109.580700*				

LATITUDE & LONGITUDE Bottom Hole - (NAD 27)						
WELL	W. LONGITUDE					
921-20B3CS	40°01'32.635" 40.025732°	109°34'29.287" 109.574802°				
921-20D4CS	109*34'53.704" 109.581585°					
921-20D1CS	921-20D1CS 40°01'40.526" 40.027924*					
921-20D4BS	40°01'36.061" 40.026684°	109°34'54.644" 109.581846°				

SCALE

Kerr-McGee		Kerr	-Mc	Gee
------------	--	------	-----	-----

Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS & NBU 921-20D4BS LOCATED IN SECTION 20, T9S, R21E, S.L.B.&M. UINTAH COUNTY, UTAH.

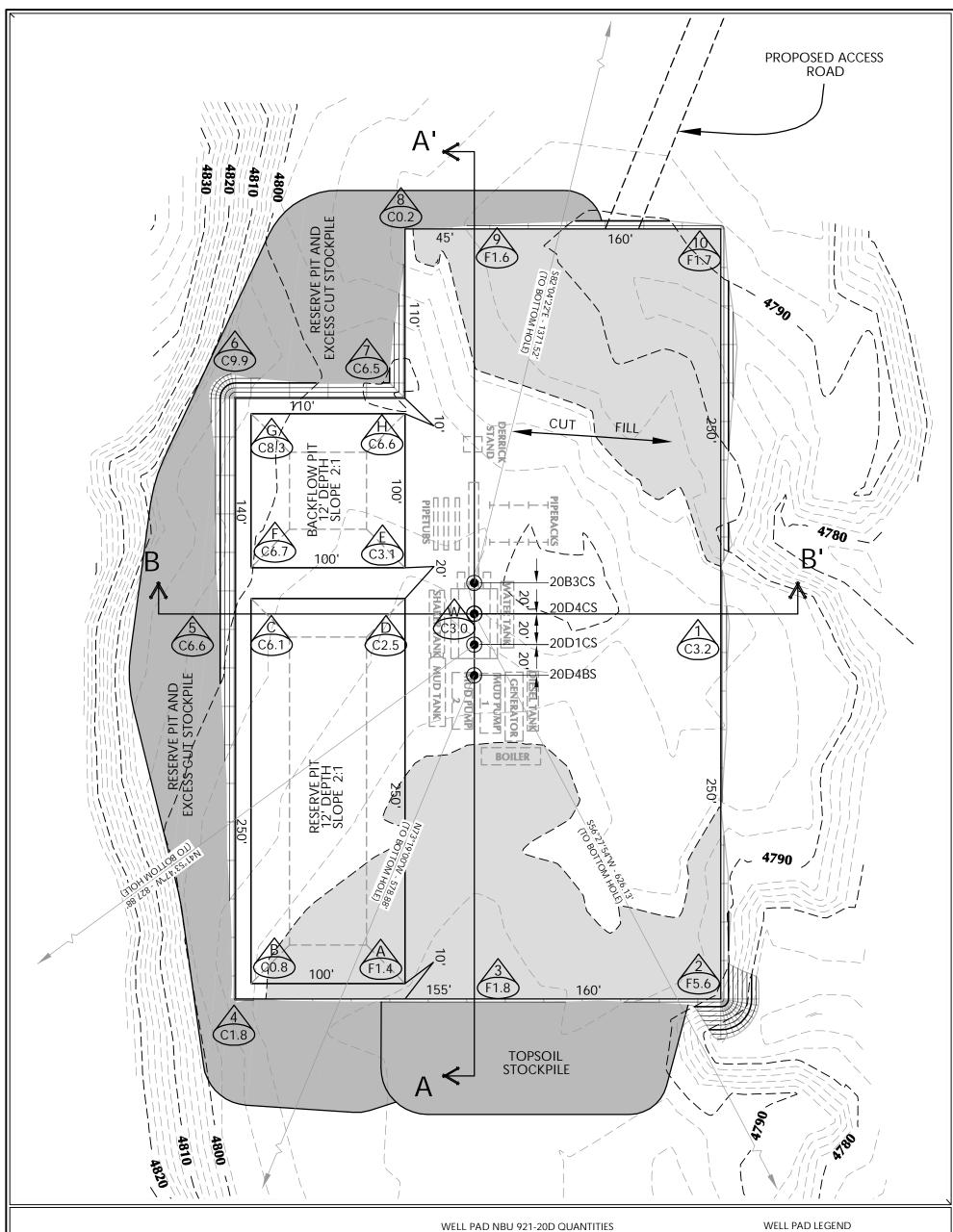


CONSULTING, LLC 371 Coffeen Avenue Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

DATE SURVEYED: 01-16-09	SURVEYED BY: M.S.B.	
DATE DRAWN: 02-26-09	DRAWN BY: K.K.O.	
	REVISED:	

Timberline(435) 789-1365 Engineering & Land Surveying, Inc. 209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET 5 OF 13



### KERR-MCGEE OIL & GAS ONSHORE L.P.

1099 18th Street - Denver, Colorado 80202

**WELL PAD - LOCATION LAYOUT** NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS & NBU 921-20D4BS LOCATED IN SECTION 20, T.9S., R.21E. S.L.B.&M., UINTAH COUNTY, UTAH



Sheridan WY 82801

Phone 307-674-0609

Fax 307-674-0182

# 371 Coffeen Avenue

### EXISTING GRADE @ CENTER OF WELL PAD = 4796.4' FINISHED GRADE ELEVATION = 4793.4' CUT SLOPES = 15:1 FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 9,912 C.Y. TOTAL FILL FOR WELL PAD = 4,910 C.Y. TOPSOIL @ 6" DEPTH = 2,886 C.Y. EXCESS MATERIAL = 5,002 C.Y. TOTAL DISTURBANCE = 3.58 ACRES SHRINKAGE FACTOR = 1.10 SWELL FACTOR = 1.00 RESERVE PIT CAPACITY (2' OF FREEBOARD)

+/- 28,730 BARRELS RESERVE PIT VOLUME

+/- 7,720 CY BACKFLOW PIT CAPACITY (2' OF FREEBOARD) +/- 9,490 BARRELS BACKFLOW PIT VOLUME +/- 2,660 CY

Scale:	1"=60'	Date:	3/17/09	SHEET NO:	
REVISE	)·		RAW	6	6 OF 13





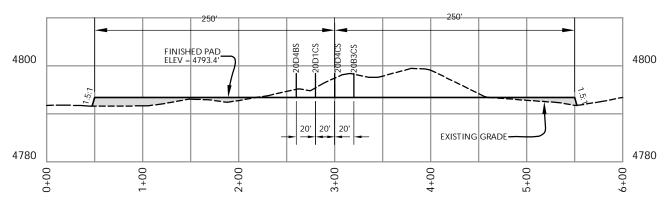
EXISTING WELL LOCATION PROPOSED WELL LOCATION EXISTING CONTOURS (2' INTERVAL) PROPOSED CONTOURS (2' INTERVAL)



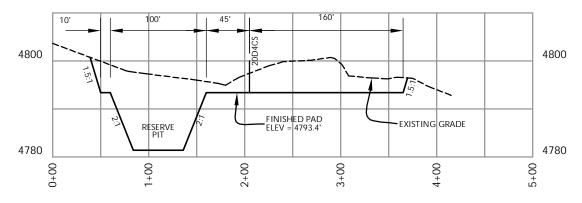
HORIZONTAL

**Timberline** Engineering & Land Surveying, Inc. 38 WEST 100 NORTH

(435) 789-1365 VERNAL, UTAH 84078



### **CROSS SECTION A-A'**



### **CROSS SECTION B-B'**

NOTE: CROSS SECTION B-B' DEPICTS MAXIMUM RESERVE PIT DEPTH.

### KERR-MCGEE OIL & GAS ONSHORE L.P.

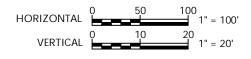
1099 18th Street - Denver, Colorado 80202

WELL PAD - CROSS SECTIONS NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS & NBU 921-20D4BS LOCATED IN SECTION 20, T.9S., R.21E. S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC 371 Coffeen Avenue Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

Ī	Scale:	1"=100'	Date:	3/17/09	SHEET NO:	
	REVISED:			RAW 9/01/09	7	7 OF 13



Timberline (435) 789–1365
Engineering & Land Surveying, Inc.
38 WEST 100 NORTH VERNAL, UTAH 84078

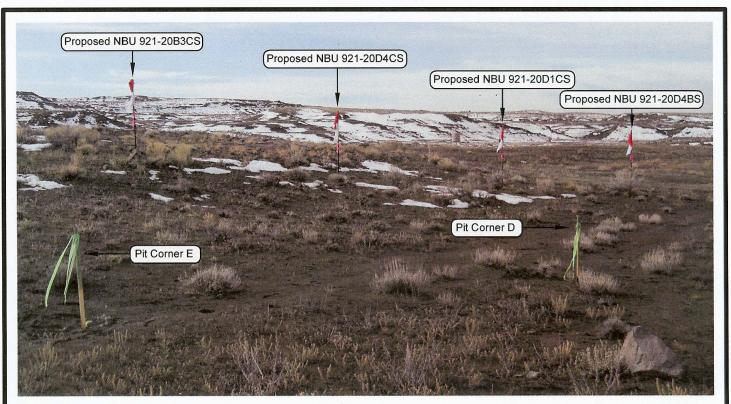


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES

CAMERA ANGLE: SOUTHERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: NORTHEASTERLY

Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS & NBU 921-20D4BS LOCATED IN SECTION 20, T9S, R21E, S.L.B.&M. UINTAH COUNTY, UTAH.



CONSULTING, LLC 371 Coffeen Avenue Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

### LOCATION PHOTOS

DATE TAKEN: 01-16-09 DATE DRAWN: 02-26-09

TAKEN BY: M.S.B.

DRAWN BY: E.M.S.

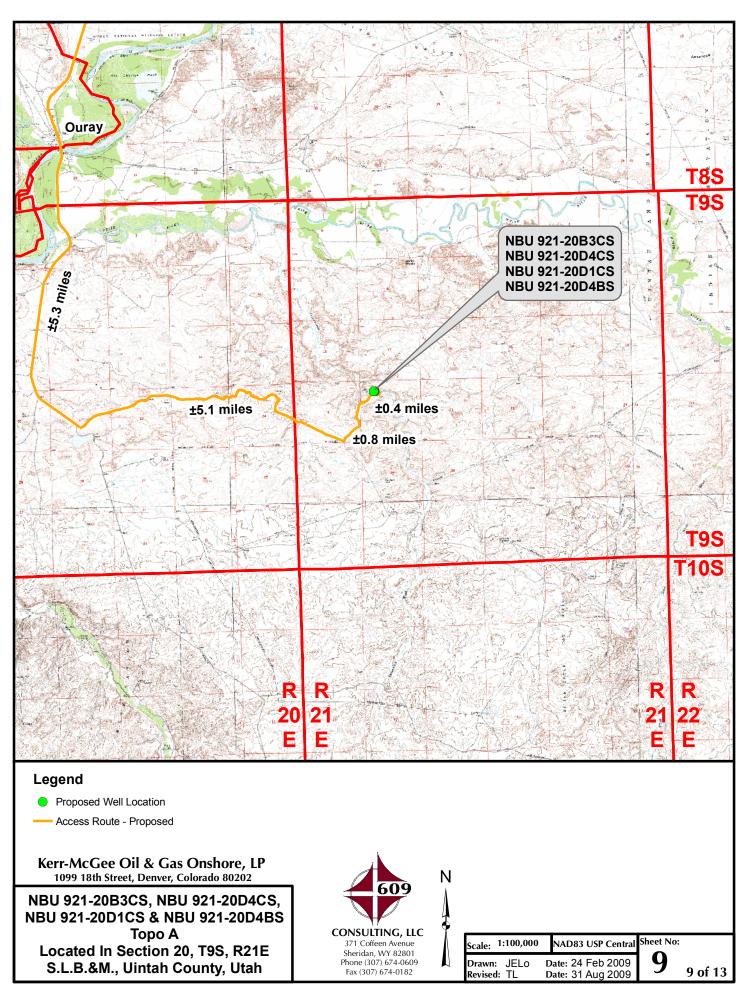
REVISED:

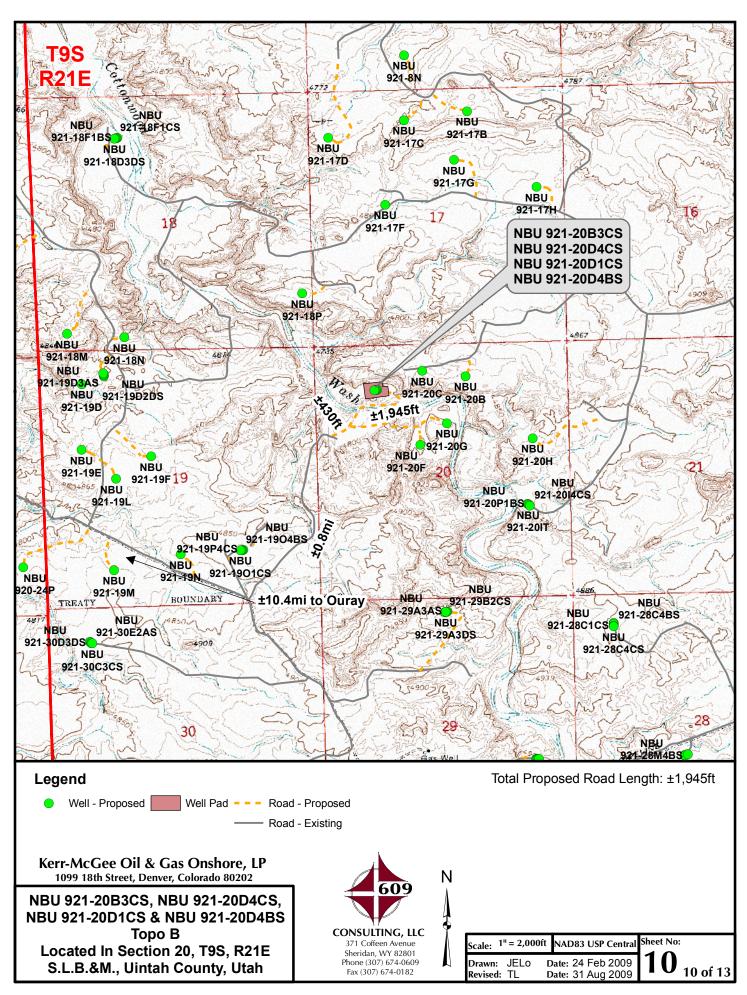
Timberline

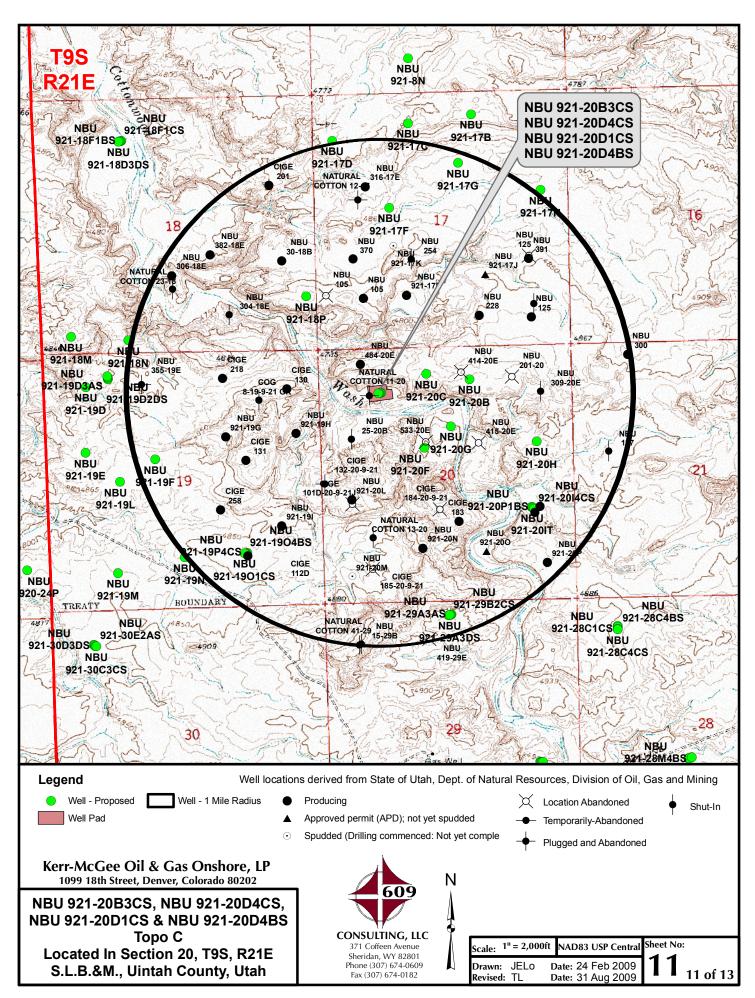
(435) 789-1365 Engineering & Land Surveying, Inc.

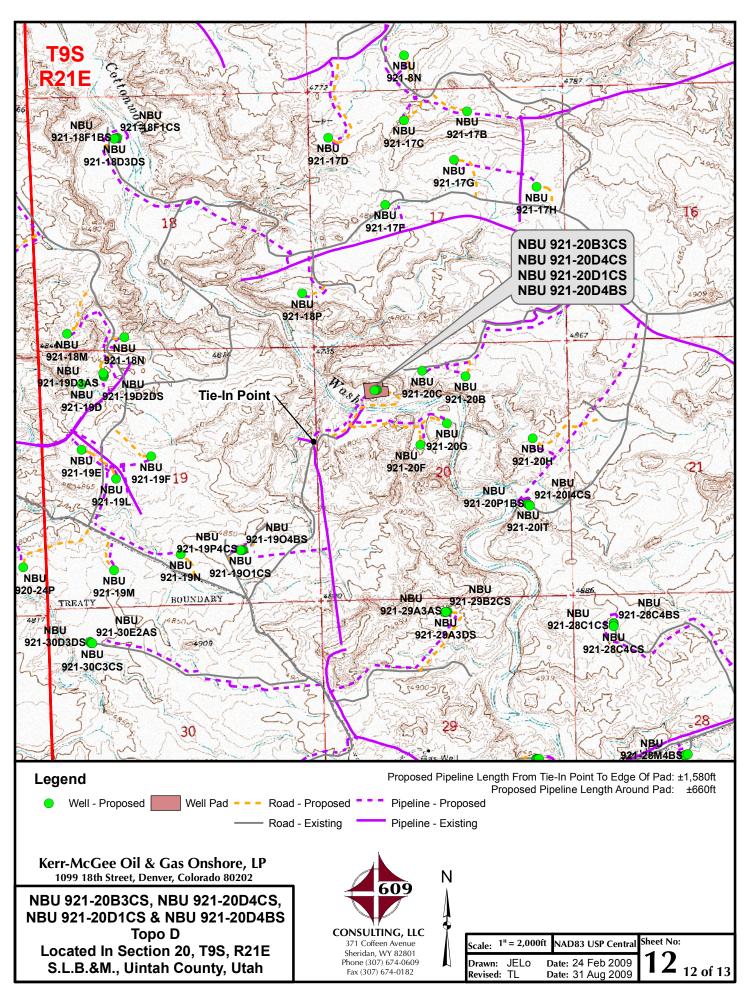
SHEET 8 **OF 13** 

209 NORTH 300 WEST VERNAL, UTAH 84078









### Kerr-McGee Oil & Gas Onshore, LP NBU 921-20B3CS NBU 921-20D4CS NBU 921-20D1CS NBU 921-20D4BS Section 20, T9S, R21E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 5.3 MILES TO THE INTERSECTION OF A SERVICE ROAD TO THE EAST. EXIT LEFT AND PROCEED IN A NORTHEASTERLY THEN SOUTHEASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 5.1 MILES TO A SECOND SERVICE ROAD TO THE NORTHEAST. EXIT LEFT AND PROCEED IN A NORTH BY NORTHEAST DIRECTION ALONG THE SECOND SERVICE ROAD APPROXIMATELY 0.8 MILES TO THE TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A NORTHEASTERLY, THEN EASTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 2,370 FEET TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE WELL LOCATION IS APPROXIMATELY 42.3 MILES IN A SOUTHERLY DIRECTION.

SHEET 13 OF 13

	FORM 9				
	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 0575				
SUNDF	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute Tr				
	sals to drill new wells, significantly deepen e igged wells, or to drill horizontal laterals. Us		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-20D4BS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	HORE, L.P.		<b>9. API NUMBER:</b> 43047505970000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHON treet, Suite 600, Denver, CO, 80217 3779	<b>E NUMBER:</b> 720 929-6007 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES		
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0963 FNL 1252 FWL QTR/QTR, SECTION, TOWNSHI			COUNTY: UINTAH STATE:		
	O Township: 09.0S Range: 21.0E Meridian:	5	UTAH		
11. CHE	CK APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPORT,	OR OTHER DATA		
TYPE OF SUBMISSION		TYPE OF ACTION			
	☐ ACIDIZE	ALTER CASING	☐ CASING REPAIR		
NOTICE OF INTENT Approximate date work will start:	☐ CHANGE TO PREVIOUS PLANS	CHANGE TUBING	☐ CHANGE WELL NAME		
8/9/2010	☐ CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE		
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION		
July of Holl Completion	OPERATOR CHANGE	PLUG AND ABANDON	☐ PLUG BACK		
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION		
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON		
	☐ TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL		
DRILLING REPORT Report Date:	☐ WATER SHUTOFF	SI TA STATUS EXTENSION	✓ APD EXTENSION		
	☐ WILDCAT WELL DETERMINATION	OTHER	OTHER:		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.  Approved by the Utah Division of Oil, Gas and Mining  Date: August 09, 2010  By:					
NAME (PLEASE PRINT)	PHONE NUMBER	TITLE Description Analysis			
Danielle Piernot  SIGNATURE	720 929-6156	Regulatory Analyst			
N/A		<b>DATE</b> 8/9/2010			



Sig

### The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

### Request for Permit Extension Validation Well Number 43047505970000

**API:** 43047505970000 **Well Name:** NBU 921-20D4BS

Location: 0963 FNL 1252 FWL QTR NWNW SEC 20 TWNP 090S RNG 210E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 8/10/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

ire revi	sion. Following is a checkl	ist of s	some items related t	the applicati	on, which should be	verified.
	ated on private land, has t ed? 📗 Yes 🌘 No	he own	nership changed, if s	o, has the sur	face agreement been	
	any wells been drilled in t requirements for this loca			well which w	ould affect the spacin	g or
	nere been any unit or othe s proposed well?			that could affe	ect the permitting or	operation
	there been any changes to the proposed location?			g ownership, o	or rightof- way, which	ı could
• Has th	ne approved source of wat	er for o	drilling changed?	Yes 📵 N	•	
	there been any physical cl le in plans from what was					ire a
• Is bor	nding still in place, which o	covers	this proposed well?	Yes	Approved by t No Utah Division Oil, Gas and Mir	of
	Danielle Piernot		8/9/2010			
Title:	Regulatory Analyst Repres	enting:	KERR-MCGEE OIL &	GAS ONSHOR <mark>⊉</mark> ;	ate: August 09, 20	)10
					Oll 160 00 8	

By: Dodg

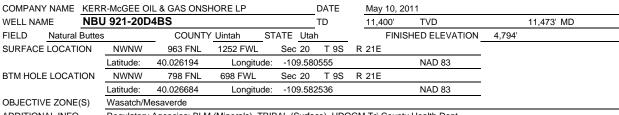
Sundry Number: 15015 API Well Number: 43047505970000

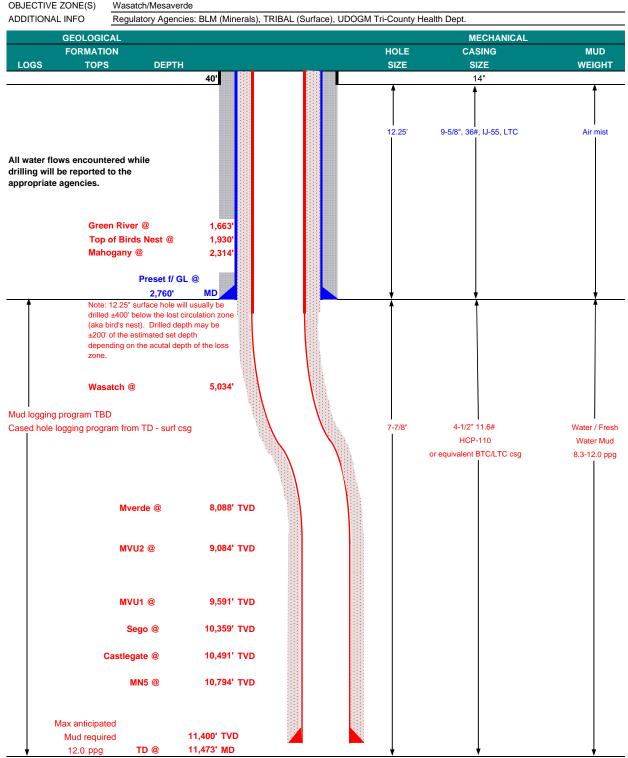
	STATE OF UTAH		FORM 9		
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MININ	IG	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 0575		
SUNDF	RY NOTICES AND REPORTS O	N WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute Tr		
Do not use this form for proposition—hole depth, reenter plu DRILL form for such proposals.	sals to drill new wells, significantly deepen exi igged wells, or to drill horizontal laterals. Use	sting wells below current APPLICATION FOR PERMIT TO	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-20D4BS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	HORE, L.P.		9. API NUMBER: 43047505970000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHONE treet, Suite 600, Denver, CO, 80217 3779	NUMBER: 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES		
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0963 FNL 1252 FWL			COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NWNW Section: 20	IP, RANGE, MERIDIAN: O Township: 09.0S Range: 21.0E Meridian: S		STATE: UTAH		
11. CHE	CK APPROPRIATE BOXES TO INDICATE I	NATURE OF NOTICE, REPORT,	OR OTHER DATA		
TYPE OF SUBMISSION		TYPE OF ACTION			
✓ NOTICE OF INTENT Approximate date work will start: 5/11/2011  □ SUBSEQUENT REPORT Date of Work Completion: □ SPUD REPORT Date of Spud: □ DRILLING REPORT Report Date:	□ ACIDIZE         □ CHANGE TO PREVIOUS PLANS         □ CHANGE WELL STATUS         ✓ DEEPEN         □ OPERATOR CHANGE         □ PRODUCTION START OR RESUME         □ REPERFORATE CURRENT FORMATION         □ TUBING REPAIR         □ WATER SHUTOFF         □ WILDCAT WELL DETERMINATION	ALTER CASING CHANGE TUBING COMMINGLE PRODUCING FORMATIONS FRACTURE TREAT PLUG AND ABANDON RECLAMATION OF WELL SITE SIDETRACK TO REPAIR WELL VENT OR FLARE SI TA STATUS EXTENSION OTHER	CASING REPAIR CHANGE WELL NAME CONVERT WELL TYPE NEW CONSTRUCTION PLUG BACK RECOMPLETE DIFFERENT FORMATION TEMPORARY ABANDON WATER DISPOSAL APD EXTENSION OTHER:		
Kerr-McGee Oil & G change the total dep the Mesaverde group	pmpLETED OPERATIONS. Clearly show all pertine is as Onshore, L.P. (Kerr-McGee) is oth (TD) to include the Blackhaw of for this well. Please see attach ndersigned if you have any ques Thank you.	respectfully requests to wk formation, which is in ed for additional details. stions and/or comments.	Approved by the		
NAME (PLEASE PRINT) Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	TITLE Regulatory Analyst			
SIGNATURE N/A		<b>DATE</b> 5/10/2011			

Sundry Number: 15015 API Well Number: 43047505970000



# KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM





Sundry Number: 15015 API Well Number: 43047505970000



### **KERR-McGEE OIL & GAS ONSHORE LP**

**DRILLING PROGRAM** 

CASING PROGRAM							DESIGN FACTORS				
										LTC	BTC
	SIZE	INT	ERVA	Г	WT.	GR.	CPLG.	BURST	COLLAPSE	TE	NSION
CONDUCTOR	14"	(	)-40'								
								3,390	1,880	348,000	N/A
SURFACE	9-5/8"	0	to	2,760	36.00	J-55	LTC	1.96	1.46	4.00	N/A
								10,690	8,650	279,000	367,000
PRODUCTION	4-1/2"	0	to	11,473	11.60	HCP-110	LTC or BTC	1.19	1.22	2.57	3.38

Surface Casing:

(Burst Assumptions: TD = 12.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.61 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	T YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl	220	60%	15.80	1.15
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	330	0%	15.80	1.15
		+ 2% CaCl + 0.25 pps flocele			•	
SURFACE		NOTE: If well will circulate water	to surface, o	ption 2 will l	be utilized	
Option 2 LEAD	2,260'	65/35 Poz + 6% Gel + 10 pps gilsonite	260	35%	11.00	3.82
		+ 0.25 pps Flocele + 3% salt BWOW				
TAIL	500'	Premium cmt + 2% CaCl	190	35%	15.80	1.15
		+ 0.25 pps flocele				
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION LEAD	4,533'	Premium Lite II +0.25 pps	360	35%	11.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TAIL	6,940'	50/50 Poz/G + 10% salt + 2% gel	1,640	35%	14.30	1.31
		+ 0.1% R-3			·	

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Cuida abas 4 is issant float. Controlling first 0 islant with how against controlling. Through lash swide abas
SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:		DATE:	
	Nick Spence / Emile Goodwin	•	
DRILLING SUPERINTENDENT:		DATE:	
	Kenny Gathings / Lovel Young		

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

Form 3160-3 (August 2007)

# RECEIVED

**UNITED STATES** DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT**  JUL 2 2 2009

FORM APPROVED OMB No. 1004-0136 Expires July 31, 2010

## ADDITION FOR DEDMIT TO DOLL OR DEE

Lease Serial No. UTU0575

APPLICATION FOR PERMIT	TO DRILL OR REENTER - V	6. If Indian, Allottee or Tri	be Name
1a. Type of Work: DRILL REENTER		7. If Unit or CA Agreemen 891008900A	t, Name and No.
lb. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Oth	ner Single Zone 🔀 Multiple Zone	8. Lease Name and Well N NBU 921-20D4BS	0.
2. Name of Operator Contact: KERRMCGEE OIL&GAS ONSHORE-NA Danielle	DANIELLE E PIERNOT Piernot@anadarko.com	9. API Well No. 43 - 041 - 5	0597
3a. Address PO BOX 173779 DENVER, CO 80202-3779	3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156	10. Field and Pool, or Expl NATURAL BUTTES	oratory
4. Location of Well (Report location clearly and in accorded	I ance with any State requirements.*)	11. Sec., T., R., M., or Blk.	and Survey or Area
At surface NWNW 963FNL 1252FWL	40.02619 N Lat, 109.58056 W Lon	Sec 20 T9S R21E M	ler SLB
At proposed prod. zone NWNW 798FNL 698FWL 4	0.02665 N Lat, 109.58254 W Lon		
14. Distance in miles and direction from nearest town or post APPROXIMATELY 12 MILES SOUTHEAST OF		12. County or Parish UINTAH	13. State UT
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 698 FEET	16. No. of Acres in Lease 1600.00	17. Spacing Unit dedicated	to this well
<ol> <li>Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.</li> </ol>	19. Proposed Depth	20. BLM/BIA Bond No. or	i file
APPROXIMATELY 450 FEET	10403 MD 10330 TVD	WYB000291	
21. Elevations (Show whether DF, KB, RT, GL, etc. 4794 GL	22. Approximate date work will start 08/10/2009	23. Estimated duration 60-90 DAYS	
, and the part of	24. Attachments		
The following, completed in accordance with the requirements of	of Onshore Oil and Gas Order No. 1, shall be attached to	this form:	
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest Syssupposed Supposed in the Surpopriate Forest Service Of Supposed in the Suppopriate Forest Service Of Supposed in the Supposed in</li></ol>			,
25. Signature (Electronic Submission)	Name (Printed/Typed) DANIELLE E PIERNOT Ph: 720-929-61	56	Date 07/22/2009
Title REGULATORY ANALYST			
Approved by (Signature)	Name (Printed/Typed)  Jerry Kenczka	The state of the s	APR 2 6 2011
Assistant Field Manager Lands & Mineral Resources	VERNAL FIELD OFF	FICE	
Application approval does not warrant or certify the applicant hoperations thereon.  Conditions of approval, if any, are attached.	olds legal or equitable title to those rights in the subject SIONS OF APPROVAL ATTACHED	lease which would entitle the	applicant to conduct
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, States any false, fictitious or fraudulent statements or representa	make it a crime for any person knowingly and willfully tions as to any matter within its jurisdiction	to make to any department or	*RECENTE

Additional Operator Remarks (see next page)

MAY 0.2 2011

Electronic Submission #72406 verified by the BLM Well Information System For KERRMCGEE OIL&GAS ONSHORE LP, sent to the Vernal Committed to AFMSS for processing by GAIL JENKINS on 07/27/2009 ()

DIV. OF OIL, GAS & MINING

NOTICE OF APPROVAL

NOS APD POSTED 07-27-09

OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

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# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT VERNAL FIELD OFFICE

VERNAL, UT 84078

(435) 781-4400



### CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:	Kerr McGee Oil & Gas Onshore	Location:	NWNW, Sec. 20, T9S, R21E
Well No:	NBU 921-20D4BS	Lease No:	UTU-0575
API No:	43-047-50597	Agreement:	Natural Buttes Unit

**OFFICE NUMBER:** 

170 South 500 East

(435) 781-4400

OFFICE FAX NUMBER:

(435) 781-3420

# A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.

### NOTIFICATION REQUIREMENTS

Location Construction (Notify Environmental Scientist)	-	Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	-	Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to: ut vn opreport@blm.gov.
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

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### SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)

- All new and replacement internal combustion gas field engines of less than or equal to 300 designrated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop
  work and contact the Authorized Officer (AO). A determination will be made by the AO as to what
  mitigation may be necessary for the discovered paleontologic material before construction can
  continue.
- Paint facilities "Shadow Gray."
- Construct a low-water crossing where the access road crosses Cottonwood Was and apply 100year floodplain standards.
- Obtain a 404 permit from the Army Corps of Engineers prior to burying the new gathering line and an existing pipeline under Cottonwood Wash.
- Construct the new gathering line and bury the existing pipeline according to the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels.
- Monitoring by a permitted paleontologist during construction operations.
- Monitoring by a permitted archaeologist during the construction process.
- In accordance with the guidelines specified in the Utah BLM Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See Appendix D), a raptor survey shall be conducted prior to construction of the proposed location, pipeline, or access road if construction will take place during raptor nesting season (January 1 through September 30) and conduct its operations according to specifications in the guidelines.
- If project construction operations are not initiated before June 18, 2010, KMG shall conduct
  additional biological surveys in accordance with the guidelines specified in the USFWS Rare Plant
  Conservation Measures for Uinta Basin hookless cactus (See Appendix D) and conduct its
  operation according to its specifications.

### **BIA Standard Conditions of Approval:**

- Soil erosion will be mitigated by reseeding all disturbed areas.
- The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not

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parallel roads but cross-country between sites, they shall be welded in place at well sites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.

- An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be used in all flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.
- The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.
- A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
- Major low water crossings will be armored with pit run material to protect them from erosion.
- All personnel shall refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.
- If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.
- Before the site is abandoned the company will be required to restore the right-of-way to near its
  original state. The disturbed area will be reseeded with desirable perennial vegetation. If
  necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed
  mixture.
- Noxious weeds will be controlled on all surface disturbances within the project area. If noxious
  weeds spread from the project area onto adjoining land, the company will also be responsible for
  their control.
- If project construction operations are scheduled to occur after December 31, 2009, KMG shall
  conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office
  Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002. If active raptor
  nests are indentified during a new survey, KMG shall conduct its operations according to the
  seasonal restrictions detailed in the Uinta basin-specific RMP guidelines and spatial offsets
  specified by the USFWS Utah Raptor Guidelines (See Appendix D).
- USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix D).
- All personnel shall refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
- If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

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4/20/2011

### DOWNHOLE PROGRAM CONDITIONS OF APPROVAL (COAs)

### SITE SPECIFIC DOWNHOLE COAs:

A Gama Ray Log shall be run from TD to surface.

### Variances Granted:

### Air Drilling:

- Properly lubricated and maintained rotating head, variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
  - Blooie line discharge 100' from the well bore, variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for two truck/trailer mounted air compressors located within 40 feet from the well bore and 60' from the blooie line.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for kill fluid.
- Automatic igniter. Variance granted for igniter due to there being no productive formations while drilling with air.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

### DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and <u>NOT</u> by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.

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 Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.

- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- Cement baskets shall not be run on surface casing.
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is
  encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal
  Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM,
   Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the <u>top of cement</u> and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

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### **OPERATING REQUIREMENT REMINDERS:**

 All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.

- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.
- Should the well be successfully completed for production, the BLM Vernal Field office must be
  notified when it is placed in a producing status. Such notification will be by written communication
  and must be received in this office by not later than the fifth business day following the date on
  which the well is placed on production. The notification shall provide, as a minimum, the following
  informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs.

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core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office
  Petroleum Engineers will be provided with a date and time for the initial meter calibration and all
  future meter proving schedules. A copy of the meter calibration reports shall be submitted to the
  BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid
  hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall
  be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to
  the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first.
  All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All
  product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in
  accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering
  lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a
  suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be
  obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover
  equipment shall be removed from a well to be placed in a suspended status without prior approval
  of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior
  approval of the BLM Vernal Field Office shall be obtained and notification given before resumption
  of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office
  Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in
  order that a representative may witness plugging operations. If a well is suspended or abandoned,
  all pits must be fenced immediately until they are backfilled. The "Subsequent Report of
  Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of
  the well bore, showing location of plugs, amount of cement in each, and amount of casing left in
  hole, and the current status of the surface restoration.

Print Form

### **BLM - Vernal Field Office - Notification Form**

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG									
Submitted By ANDY LYTLE Phone Number 720.929.6100									
Well Name/Number NBU 921-20D4BS									
	Qtr/Qtr NWNW Section 20 Township 9S Range 21E								
Leas	e Serial Number UTU0575	•							
API I	Number 4304750597								
	d Notice – Spud is the initial pelow a casing string.	spudding of	the wel	l, not drilling					
	Date/Time <u>05/19/2011</u>	08:00 HRS A	M 🗌	РМ					
<u>Casi</u> time	ng – Please report time casi s.	ng run starts	, not ce	ementing					
	Surface Casing			RECEIVED					
	Intermediate Casing		•	MAY 1 8 2011					
	Production Casing								
	Liner		OIV.	OF OIL, GAS & MINING					
	Other								
	Date/Time <u>06/01/2011</u>	08:00 HRS A	M 🗌	РМ					
ВОР	E								
	= Initial BOPE test at surface	casing point							
	BOPE test at intermediate	<b>.</b>							
	30 day BOPE test	5 1							
	Other								
	Date/Time		M 🗌	РМ					
Rem	arks estimated date and time. Plea	SE CONTACT KENNY	GATHINGS A	ΑT					
435 82	98 0986 OR LOVEL VOING AT 435 781 705								

Sundry Number: 15215 API Well Number: 43047505970000

			FORM 9
	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES		
	DIVISION OF OIL, GAS, AND MINI	NG	<b>5.LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575
SUNDF	RY NOTICES AND REPORTS O	N WELLS	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
	sals to drill new wells, significantly deepen ex igged wells, or to drill horizontal laterals. Use		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-20D4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	<b>9. API NUMBER:</b> 43047505970000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHONE treet, Suite 600, Denver, CO, 80217 3779	<b>NUMBER:</b> 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0963 FNL 1252 FWL		COUNTY: UINTAH	
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NWNW Section: 20	P, RANGE, MERIDIAN: D Township: 09.0S Range: 21.0E Meridian: S		STATE: UTAH
11. CHE	CK APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT	☐ CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
Approximate date work will start:	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
bate of work completion.	☐ OPERATOR CHANGE	PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
✓ SPUD REPORT  Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
5/19/2011	☐ TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT		-	
Report Date:	☐ WATER SHUTOFF	SI TA STATUS EXTENSION	☐ APD EXTENSION
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
MIRU PETE MARTIN	MPLETED OPERATIONS. Clearly show all pertin BUCKET RIG. DRILLED 20" CO DULE 10 PIPE. CMT W/28 SX RE 05/19/2011 AT 0900 HRS.	NDUCTOR HOLE TO 40'. EADY MIX. SPUD WELL O A L Oil	
Sheila Wopsock	435 781-7024	Regulatory Analyst	
SIGNATURE N/A		<b>DATE</b> 5/20/2011	

Sundry Number: 15426 API Well Number: 43047505970000

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 0575
	RY NOTICES AND REPORTS		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute Tr
	sals to drill new wells, significantly deepen igged wells, or to drill horizontal laterals. U		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-20D4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	HORE, L.P.		9. API NUMBER: 43047505970000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHOI treet, Suite 600, Denver, CO, 80217 3779	NE NUMBER: 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0963 FNL 1252 FWL		COUNTY: UINTAH	
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NWNW Section: 20	S	STATE: UTAH	
11. CHE	CK APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
SUBSEQUENT REPORT	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	☐ PLUG BACK
SPUD REPORT Date of Spud:	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION ☐ TUBING REPAIR	SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
✓ DRILLING REPORT	☐ TUBING REPAIR ☐ WATER SHUTOFF		☐ WATER DISPOSAL ☐ APD EXTENSION
Report Date: 5/31/2011			
	☐ WILDCAT WELL DETERMINATION ☐	OTHER	OTHER:
MIRU AIR RIG ON N SURFACE CASING	MPLETED OPERATIONS. Clearly show all per MAY 28, 2011. DRILLED SURFA AND CEMENTED. WELL IS WA INT JOB WILL BE INCLUDED W REPORT.	ACE HOLE TO 2840'. RAN ITING ON ROTARY RIG. ITH WELL COMPLETION A U	
NAME (PLEASE PRINT) Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	TITLE Regulatory Analyst	
SIGNATURE N/A		<b>DATE</b> 6/1/2011	

#### STATE OF UTAH **DEPARTMENT OF NATURAL RESOURCES** DIVISION OF OIL, GAS AND MINING

#### **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

1368 SOUTH 1200 EAST

Address:

city VERNAL

zip 84078 state UT

Phone Number: (435) 781-7024

Well 1

API Number	Well	Name	QQ	Sec	Twp	Rng	County		
4304750597	NBU 921-20D4BS	NWNW	20	98	21E	UINTAH			
Action Code	Current Entity Number	New Entity Number	S	Spud Date			Entity Assignment Effective Date		
$\mathcal{B}$	99999	3900	5	/19/201	1	5/31/11			
omments:			2111			<del>'                                    </del>			

WSMVD MIRU PETE MARTIN BUCKET RIG. SPUD WELL ON 05/19/2011 AT 0900 HRS

BHL= NWNW

Well 2

API Number	Well I	QQ	Sec	Twp	Rng	County		
4304750596	NBU 921-20D1CS	NWNW	20	98	21E	UINTAH		
Action Code	Current Entity Number	S	Spud Date			Entity Assignment Effective Date		
$\mathcal{B}$	99999	3910	5	/19/201	1	5/21/11		
Comments: MIRU SPU	U PETE MARTIN BUCKE D WELL ON 05/19/2011	TRIG. WS71	1VD A	1.= K	JWN	(1)		

#### Well 3

API Number	Well I	Vame	QQ	Sec	Twp	Rng	County		
4304750598	NBU 921-20D4CS	NWNW	20	98	21E	UINTAH			
Action Code	Current Entity Number	New Entity Number	S	Spud Date		Entity Assignment Effective Date			
3	99999	2900	5	5/19/2011			5/31/11		
	J PETE MARTIN BUCKE D WELL ON 05/19/2011		VS BI	42=	NW	NW			

#### **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- Re-assign well from one existing entity to another existing entity
- Re-assign well from one existing entity to a new entity
- Other (Explain in 'comments' section)

SHEILA WOPSOCK

Name (Please Print)

**REGULATORY ANALYST** 

5/20/2011

Title

Signature

Date

(5/2000)

MAY 2 3 2011

**RECEIVED** 

# Carol Daniels - BOP TEST NBU 921-20D4BS T095 R 21E 5-20 43-047-50597

From:

"Anadarko - H&P 298"

To:

Date:

6/13/2011 9:00 AM

**Subject:** BOP TEST NBU 921-20D4BS

Carol,

Moving H&P rig 298 to NBU921-20D4BS will be doing the inital bop test tuesday morning 6/14/2011 @ around 0600 hrs.,

Thanks JIM MURRAY H&P 298 435 828-0957

RECEIVED
JUN 1 3 2011

DIV. OF OIL, GAS & MINING

Sundry Number: 16185 API Well Number: 43047505970000

			FORM 9		
	STATE OF UTAH		TOKIN 9		
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 0575		
	RY NOTICES AND REPORTS	_	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute Tr		
	sals to drill new wells, significantly deepen e igged wells, or to drill horizontal laterals. Us		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-20D4BS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	HORE, L.P.		9. API NUMBER: 43047505970000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHON treet, Suite 600, Denver, CO, 80217 3779	<b>E NUMBER:</b> 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES		
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0963 FNL 1252 FWL		COUNTY: UINTAH			
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NWNW Section: 20	S	STATE: UTAH			
11. CHE	CK APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPORT,	OR OTHER DATA		
TYPE OF SUBMISSION		TYPE OF ACTION			
	☐ ACIDIZE	ALTER CASING	CASING REPAIR		
☐ NOTICE OF INTENT	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME		
Approximate date work will start:	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE		
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION		
Bute of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	☐ PLUG BACK		
_	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION		
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON		
	U TUBING REPAIR	VENT OR FLARE	☐ WATER DISPOSAL		
✓ DRILLING REPORT	□ WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION		
Report Date: 6/24/2011					
	WILDCAT WELL DETERMINATION	OTHER	OTHER:		
MIRU ROTARY RIG. F. 2011. RAN 4-1/ PRODUCTION CASIN HRS. DETAILS O COMPLETION REPOR	INISHED DRILLING FROM 2840 INISHED DRILLING FROM 2840 INISHED DRILLING FROM 2840 INISHED DRILLING FROM 2840 INISHE P-110 PRODUCTION INISHE P-110 PRODUCTION INISHE P-110 PRODUCTION INISHE P-110 PRODUCTION INISHE PRODUCTION INISHE PRODUCTION INISHE PRODUCTION INISHE PRODUCTION INISHE PRODUCTION INISHE PRODUCTION INISHED PRODUCTION INISHE PRODUCTION INISH	O' TO 11,480' ON JUNE 22 CASING. CEMENTED N JUNE 24, 2011 @ 06:08 IDED WITH THE WELL L COMPLETION ACTIVITOR	ccepted by the Utah Division of		
NAME (PLEASE PRINT) Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	TITLE Regulatory Analyst			
SIGNATURE N/A		<b>DATE</b> 6/27/2011			

Sundry Number: 18951 API Well Number: 43047505970000

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MININ	NG	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 0575
SUNDF	RY NOTICES AND REPORTS O	N WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE
Do not use this form for proposition-hole depth, reenter plu DRILL form for such proposals.	sals to drill new wells, significantly deepen ex ugged wells, or to drill horizontal laterals. Use	isting wells below current APPLICATION FOR PERMIT TO	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-20D4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	HORE, L.P.		9. API NUMBER: 43047505970000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHONE treet, Suite 600, Denver, CO, 80217 3779	NUMBER: 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0963 FNL 1252 FWL		COUNTY: UINTAH	
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NWNW Section: 20	IP, RANGE, MERIDIAN: 0 Township: 09.0S Range: 21.0E Meridian: S		STATE: UTAH
11. CHE	CK APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
THE SUBJECT WELL	CHANGE TO PREVIOUS PLANS     CHANGE WELL STATUS     DEEPEN     OPERATOR CHANGE     ✓ PRODUCTION START OR RESUME     REPERFORATE CURRENT FORMATION     TUBING REPAIR     WATER SHUTOFF     WILDCAT WELL DETERMINATION  DMPLETED OPERATIONS. Clearly show all pertine WAS PLACED ON PRODUCTION DGICAL WELL HISTORY WILL BE WELL COMPLETION REPORT	ON 09/22/2011 AT 3:00 SUBMITTED WITH THE L Oil	
NAME (PLEASE PRINT) Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	TITLE Regulatory Analyst	
SIGNATURE N/A		<b>DATE</b> 9/29/2011	

Form 3160-4 (August 2007)

## UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED OMB No. 1004-0137 Expires: July 31, 2010

			DUKEA	UOFL	TATAL	) IATUT	AVOL	MATTATA I						ı			<b>,</b> ,	
	WELL	COMPI	LETION (	OR RE	CO	MPLE	ETIO	N REPO	DRT	AND L	.OG				ase Serial I	No.		-
la. Type of	_	Oil Well			O I		Ot					D		6. If	Indian, Alle	ottee o	r Tribe Name	
b. Type o	f Completion	_	New Well er	□ Wo		•	Dee	epen _	Plug	g Back	Пг	oiff. R	esvr.	7. U1	nit or CA A	greem	ent Name and No	).
2. Name of KERR	Operator MCGEE OII	L & GAS	ONSHORE	,lMail: с	JAIME	Contac E.SCH	t: JAI	ME L. SC WSKE@/	HAR ANAI	NOWSK DARKO.	E COM				ase Name a BU 921-20			
3. Address	PO BOX DENVER		217					3a. Pho Ph: 72	ne No	o. (include	e area	code)		9. A	PI Well No.		43-047-50597	,
4. Location	of Well (Re			nd in acc	cordar	nce with	Fede										Exploratory	
At surfa	ice NWNV	N 963FN	L 1252FWL	. 40.026	3229 I	N Lat,	109.5	79865 W I	on						ATURAL I		ES Block and Surve	v
At top p	rod interval	reported b	elow NW	NW 779	9FNL	695FV	٧L							01	Area Sec	20 T	9S R21E Mer S	ĹВ
At total		_	FNL 712FW					HSM	`						County or P INTAH	arish	13. State UT	
14. Date Sp 05/19/2	oudded 2011			ate T.D. 5/22/201	Reac		7	16.	Date D &	Complete A 2/2011	ed Ready	y to Pı	od.	17. E	levations ( 479	DF, K 93 GL	B, RT, GL)*	
18. Total D	epth:	MD TVD	1148 1141		19.	Plug Ba	ack T.	D.: M		11	430 369		20. De	oth Bri	ige Plug Se		MD TVD	
21. Type E SCBL-A	lectric & Oth ANISOTRO	er Mecha PY-BHV-	nical Logs R ROCKMEC	un (Sub HANIC	mit co S-SE	py of e MBLA	ach) NCE-\	WSTT-X			٠ ،	Was I	vell core OST run? ional Su	,	🗙 No	🔲 Ye:	s (Submit analysis s (Submit analysis s (Submit analysis	s)
23. Casing ar	nd Liner Rec	ord (Repe	ort all strings	set in w	vell)												(* )	·
Hole Size	Size/G	rade	Wt. (#/ft.)	To (MI	•	Botto (MI	1	Stage Cem Depth		No. o Type o	f Sks. of Cen		Slurry (BB		Cement 7	Гор*	Amount Pulle	ed .
20.000		000 STL	36.7	<b> </b>	0		40					28						
12.250		325 J-55			0		2836			<del> </del>		525				414	<del> </del>	
7.875	4.50	00 P-110	11.6	-	0	1	1472					2040				414		
				<del>                                     </del>				··· •	_									
				<u> </u>														
24. Tubing	Record																	
	Depth Set (M		acker Depth	(MD)	Siz	ze	Depth	Set (MD)	P	acker De	oth (M	(D)	Size	De	pth Set (MI	<u>)</u>	Packer Depth (M	D)
2.375 25. Producii		1026			l		26 1	Perforation	Reco	ord		1		1		1_		
	ormation		Тор	<u> </u>	Rot	ttom	20.1			Interval		Т	Size	TN	lo. Holes		Perf. Status	
A)	MESAVE	RDE	Тор	8003		11219		1 01101		8003 TC	1121	19	0.3			OPE		
	myn																	
C)												$\perp$						
D)		l	·				l								_		<del></del>	
	acture, Treat		ment Squeez	e, Etc.							1.7	-634	_4					
	Depth Interva	al 3 TO 11:	210 PLIMP	9 678 B	RISS	LICK H	20 & 4	487,431 LB		mount and			ateriai				<del></del>	<del></del>
		3 10 11	2101.0	0,070 =				101,101.22										
	on - Interval			Tair			1		011.0					B 1 2	. ) ( 3 1			
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL		Jas MCF	BE	ater 3L	Oil Gr Corr. A			Gas Gravity		Producii	on Method			
09/22/2011	10/04/2011	24		0.0		4712.0		805.0							FLOV	/S FR	OM WELL	
Choke Size	Tbg. Press. Flwg. 690	Csg. Press.	24 Hr. Rate	Oil BBL		Jas MCF	BI		Gas:O Ratio	il		Well St						
	SI	293.0		0		4712		805				P	GW					
28a. Product	tion - Interva Test	Hours	Test	Oil	17	Gas	w	ater	Oil Gr	avity		Gas		Producti	on Method			
	Date Date	Tested	Production	BBL		MCF	BI		Corr. A			Gravity		- 100000	MANNIOU			
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL		3as MCF	W. BE		Gas:O Ratio	il		Well Sta	ntus		-	F	RECEIV	Fr
	1.21															-		_

(See Instructions and spaces for additional data on reverse side)
ELECTRONIC SUBMISSION #121127 VERIFIED BY THE BLM WELL INFORMATION SYSTEM
\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

OPERATOR-SUBMITTED \*\*

28b. Production - Interval C  Date First Produced Date Hours Tested Production BBL Gas MCF BBL Corr. API Gas Gravity  Choke Tbg. Press. Csg. 24 Hr. Oil Gas MCF BBL Gas: Oil Ratio Gas: Oil Gas Gas: Oil Ratio Gas: Oil Gravity Corr. API Gravity  Choke Tbg. Press. Csg. 24 Hr. Oil Gas:	Method
Produced Date Tested Production BBL MCF BBL Corr. API Gravity  Choke Size Flivg. Press. Size Flivg. SI Date Tested Date Tested Production - Interval D  Date First Test Date Tested Production BBL MCF BBL Corr. API Gas. Oil Gravity Gas. Oil Gravity Gravity  Choke Tbg. Press. Csg. 24 Hr. Dil Gas BBL MCF BBL Corr. API Gravity Gravity  Choke Tbg. Press. Csg. 24 Hr. Dil Gas BBL MCF BBL Gravity Gravity  Choke Tbg. Press. Csg. 24 Hr. Rate BBL MCF BBL Ratio  29. Disposition of Gas(Sold, used for fuel, vented, etc.)  SOLD  30. Summary of Porous Zones (Include Aquifers):  Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.	Method
Size    Flwg.   Si   Press.   Rate   BBL   MCF   BBL   Ratio	
28c. Production - Interval D  Date First Produced Date Test Date Tested Production BBL MCF BBL Corr. API Gas Gravity  Choke Size Flwg. Si Si Sold, used for fuel, vented, etc.)  29. Disposition of Gas(Sold, used for fuel, vented, etc.)  SOLD  30. Summary of Porous Zones (Include Aquifers):  Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.	
Date First Produced  Test Date  Test Produced  Test Date  Test Production  Test Date  Production  Test Production  Test Production  Test Production  Test Production  BBL  Gas MCF  BBL  Gas MCF  BBL  Gas:Oil Ratio  Well Status  Well Status  Well Status  29. Disposition of Gas(Sold, used for fuel, vented, etc.)  SOLD  30. Summary of Porous Zones (Include Aquifers):  Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.	
Produced Date Tested Production BBL MCF BBL Corr. API Gravity  Choke Size Tbg. Press. Csg. Press. Siz Press. S	
Size  Flwg. SI  Press. Rate BBL MCF BBL Ratio  29. Disposition of Gas(Sold, used for fuel, vented, etc.) SOLD  30. Summary of Porous Zones (Include Aquifers): Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.	og) Markers
SOLD  30. Summary of Porous Zones (Include Aquifers):  Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.	og) Markers
Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.	og) Markers
tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.	
Formation Top Bottom Descriptions, Contents, etc.	Top  Meas. Depth
GREEN RIV BIRD'S NES MAHOGAN' WASATCH MESAVERD  32. Additional remarks (include plugging procedure): Attached is the chronological well history, perforation report & final survey.	ER 1665 ST 1917 Y 2352 5098
33. Circle enclosed attachments:  2. Coolegie Parent  2. DST Parent	4. Directional Survey
1. Electrical/Mechanical Logs (1 full set req'd.)2. Geologic Report3. DST Report5. Sundry Notice for plugging and cement verification6. Core Analysis7 Other:	4. Directional Survey
34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see Electronic Submission #121127 Verified by the BLM Well Information System.  For KERR MCGEE OIL & GAS ONSHORE, L, sent to the Vernal	ee attached instructions):
Name (please print) JAIME L. SCHARNOWSKE Title REGULATORY ANALYST	
Signature (Electronic Submission) Date 10/24/2011	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to	

## **Operation Summary Report**

Well: NBU 921-20D4BS RED	Spud Conductor: 5/19/2011	Spud Date: 5/29/2	011
Project: UTAH-UINTAH	Site: NBU 921-20D PAD		Rig Name No: H&P 298/298, CAPSTAR 310/310
Event: DRILLING	Start Date: 5/9/2011		End Date: 6/24/2011

Active Datum: RKB @4,819.01ft (above Mean Sea

Level)

10/18/2011

10:06:13AM

UM: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/963/W/0/1252/0/0

Date Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (ft)
5/28/2011	14:00 - 22:00	8.00	DRLSUR	01	Α	Р	MOVE RIG TO NBU 920-20D PAD 6 MILE MOVE ROAD VERY ROUGH
	22:00 - 23:00	1.00	DRLSUR	14	Α	P	WELD ON RISER AND RIG UP FLOW LINE
	23:00 - 0:00	1.00	DRLSUR	08	Α	Z	FORK LIFT BROKEN DOWN HYDRAULIC HOSE BLOWN COULD NOT UNOAD BHA
5/29/2011	0:00 - 2:00	2,00	DRLSUR	80	Α	Z	FORK LIFT BROKEN DOWN HYDRAULIC HOSE BLOWN COULD NOT UNOAD BHA
	2:00 - 3:00	1,00	DRLSUR	06	Α .	Р	PICK UP MUD MOTOR AND 12,25" BIT
	3:00 - 4:30	1,50	DRLSUR	02	С	P	SPUD WELL DRILL 12.25" HOLE F/ 40' - 227' WOB 8-20 ROT 45-55 DHR 96 GPM 600 NO LOSSES
	4:30 - 7:30	3.00	DRLSUR	06	Α	P	TOOH AND PICK UP DIRECTIONAL TOOLS AND INSTALL MWD TOOL AND ORIENT TO MUD MOTOR TIH
	7:30 - 14:00	6.50	DRLSUR	02	С	P	DRILL 1225" HOLE F/ 227' - 1247' AVE ROP 156 FT HR WOB 20-22 ROT 45-55 DHR 96 GPM 600 NO LOSSES LAST SURVEY 13.63 DEG 286.83 AZI
	14:00 - 14:30	0.50	DRLSUR	07	Α	Р	DAILY RIG SERVICE
	14:30 - 0:00	9.50	DRLSUR	02	С	P	DRILL 1225" HOLE F/ 1247' - 1785' AVE ROP 56 FT HR WOB 20-22 ROT 45-55 DHR 96 GPM 600 NO LOSSES LAST SURVEY 13.01 DEG 288.07 AZI
5/30/2011	0:00 - 14:00	14.00	DRLSUR	02	С	Р	DRILL 12.25" HOLE F/ 1785' - 2840' T.D. AVE ROP 75 WOB 20-22 ROT 45-55 DHR 96 GPM 600 NO LOSSES LAST SURVEY 13.01 DEG 287.97 AZI 2' HIGH AND 1.5' LEFT OF LINE
	14:00 - 16:30	2.50	DRLSUR	05	С	P	CIRCULATE AND CONDITION MUD PRIOR TO LDDS
	16:30 - 20:30	4.00	DRLSUR	06	Α	P	BREAK DOWN DIRECTIONAL TOOLS AND BHA FOR INSPECTION
	20:30 - 0:00	3.50	DRLSUR	12	С	P	FULL RETURNS THROUGH OUT CASING RUN RUN 68 JOINTS OF 9.625 40# J55 CASING SHOE AT 2808' BAFFLE AT 2766'
5/31/2011	0:00 - 2:00	2.00	DRLSUR	12	E	P	TEST LINES TO 2500 PSI // PUMP 25 BBL SPACER // LEAD= 200 SX CLASS G CMT @ 3.83 YIELD & 11.0 WT // TAIL= 225 SX CLASS G CMT @ 1.15 YIELD & 15.8 WT // DROP PLUG & DIEPLACE W/ 158 BBL'S WATER // PLUG DN // BUMP PLUG W/ 625 PSI // FINAL LIFT = 245 PSI // CHECK FLOATS- HELD W/ 2 BBL'S BACK // 20 BBLS TO SURFACE CUT CONDUCTOR AND HANG OFF 9 5/8 CASING
	2:00 - 2:30	0.50	DRLSUR	14	A	P P	
	2:30 - 4:00	1.50	DRLSUR	12	E	P 	RUN 160' OF 1" PIPE AND PUMP 11 SX OF TAIL CEMENT CEMENT FELL WILL TOP OUT ON NEXT JOB. RELEASE RIG @ 0400

#### US ROCKIES REGION **Operation Summary Report** Spud Date: 5/29/2011 Spud Conductor: 5/19/2011 Well: NBU 921-20D4BS RED Rig Name No: H&P 298/298, CAPSTAR 310/310 Project: UTAH-UINTAH Site: NBU 921-20D PAD Event: DRILLING End Date: 6/24/2011 Start Date: 5/9/2011 UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/963/W/0/1252/0/0 Active Datum: RKB @4,819.01ft (above Mean Sea Level) Phase P/U Operation Date Code Sub MD From Time Duration Start-End Code (ft) DRLSUR 4.00 - 4:00 0.00 CONDUCTOR CASING: Cond. Depth set:40 Cement sx used:28 SPUD DATE/TIME:5/29/2011 3:00 SURFACE HOLE: Surface From depth: 40 Surface To depth:2,840 Total SURFACE hours:31.50 Surface Casing size:9-5/8" # of casing joints ran: Casing set MD:2,808.0 # sx of cement:200/225/100 Cement blend (ppg:)11/15.8/15/8 Cement yield (ft3/sk):3.82/1.15/1.15 # of bbls to surface:35 Describe cement issues: NONE Describe hole issues: NONE RDMO- PREP RIG FOR TRUCKS 6/12/2011 0:00 - 7:00 7.00 **RDMO** 01 Ε 7:00 - 20:00 13.00 **RDMO** 01 Α SAFETY MEETING WITH RIG CREWS, TRUCKING CREW & CRANE CREW / 6 BED TRUCKS 4 HAUL TRUCKS, TWO FORKLIFTS & ONE CRANE ON LOCATION @ 07:00 /, MOVE CAMPS TO NEW LOC & RIG UP/ LOAD OUT & MOVE BACK YARD./ SET IN BACK YARD & R/U PUMPS MCC HOUSE, WATER TANK .VFD. GENS & DIESELTANK / PLUG IN ELECTRIC CORDS / LOWER DERRICK SPLIT & LOAD OUT / LOWER SUB / & LOAD OUT TRUCKERS LEFT LOCATION @ 1800 HRS DUE TO D.O.T REGULATIONS / SET SKID RAILS W/ CRANE & RIG CREWS / SFTN / RIG 95% MOVED 35% RIGGED UP/ H&P 10 MEN 14 HRS 20:00 WAIT ON DAYLIGHT - 0:00 4.00 **RDMO** 21 С WAIT ON DAYLIGHT 0:00 - 6:00 MIRU В P 6/13/2011 6.00 21 6:00 - 0:00 18.00 MIRU 01 HSM / FINISH HAULING LAST LOADS TO LOC / SET DRAWWORKS SET & PIN SUB STRUCTURE+COMPONENTS / SUB UP @ 09:00 HRS,RAISE SHAKERS SET & RAISE DOGHOUSE,SET IN GAS BUSTER/ RELEASED 4 HAUL TRUCKS / 2 BED TRUCKS @11:00/ SET IN DERRICK & REASSEMBLE / PURGE & PIN CYLINDERS TO DERRICK / RAISE DERRICK TO RIG FLOOR & PIN /MOVE CYLINDERS TO RAISE POSITION, RAISE DERRICK UP @ 1500 / FINISH SET IN RIG, ,BOP HANDLER, FRAC TANKS CMT SILOS/ CAT WALK & STAIRS/ SET IN FLOW LINE / FLARE LINES/TRUCKS GONE @15:30 CRANE @16:30 / POWER UP RIG / SPOOL DRILL LINE, UNPIN TOP DRIVE/ DRESS RIG FLOOR .ELECTRIC, WATER, AIR, I RIG UP CIRC

Ρ

P

10/18/2011 10:06:13AM

0:00

2:00

- 2:00

- 8:00

2.00

6.00

MIRU

PRPSPD

01

14

В

В

6/14/2011

**PUMPS / NSTALL BAILS & ELEVATORS** 

NIPPLE UP BOPE

SET SKID RAMS, CENTER RIG OVER WELL

							KIES RE Summa	GION ry Report			
	20D4BS F	RED		Spud Co	nductor: 6	5/19/2011		Spud Date: 5/2	9/2011		
Project: UTAH-	UINTAH			Site: NBU	J 921-20E	PAD			Rig Name No: H&P 298/298, CAPSTAR 310/310		
Event: DRILLING			Start Dat	e: 5/9/201	1	T		End Date: 6/24/2011			
ctive Datum: F	RKB @4,8	19.01ft (abo	ve Mean Sea		UWI: N	W/NW/0/9	9/S/21/E/20	0/0/0/26/PM/N/96	63/W/0/1252/0/0		
.evel)								· · · · · · · · · · · · · · · · · · ·			
Date	. B. K. S. S. S. S. A. S. S.	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation		
	8:00	- 15:30	7.50	PRPSPD	15	A	P		PRESSURE TEST PIPE RAMS, BLIND RAMS, IBOP, FLOOR VALVE, KILL LINES & KILL LINE VALVES, BOP WING VALVES, HCR VALVE + CHOKE LINE; INNER AND OUTER CHOKE VALVES & MANIFOLD TO 250 PSI LOW @ 5 MINUTES + 5000 PSI HIGH @ 10 MINUTES / TEST ANNULAR TO 250 PSI LOW @ 5 MINUTES + 2500 PSI HIGH @ 10 MINUTES / TEST SUPER CHOKE + SURFACE CASING TO 1500 PSI @		
	15:20	40.00	0.50	DDDCDD	4.4	В			30 MINUTES - CHANGE OUT IBOP VALVE SET WEAR BUSHING		
	15:30 16:00	- 16:00 - 16:00	0.50 0.00	PRPSPD	14 23	В	P :p		PRE SPUD INSPECTION		
		- 21:30	5.50	PRPSPD	06	Α	P	•	HSM W WEATHERFORD PICK UP BHA & DIR TOOLS, ORIENT & SURFACE TEST, PICK UP 59		
									JOINTS DP TAG @ 2745' / R/D SAME.		
	21:30	- 22:30	1.00	PRPSPD	07	В	P		LEVEL DERRICK,ADD 1"SHIMS TO OFF DRILLER SIDE FRONT LEG		
	22:30	- 23:00	0.50	PRPSPD	14	В	P		INSTALL ROTATING HEAD / BREAK CIRC/ SWIVEL PACKING LEAKING		
	23:00	- 0:00	1.00	PRPSPD	07	C	P		CHANGE SWIVEL PACKING		
6/15/2011	0:00	- 1:30	1.50	DRLPRO	02	F	Р		DRILL FLOAT TRAC 2745/ 2857 BAFFLE @ 2782,SHOE @ 2825 OPEN HOLE TO 2857'		
	1:30	- 6:00	4.50	DRLPRO	02	D	Р		DRILL/ SLIDE/ SURVEY F/2857 TO 3382' = 525 '@116.6 FPH / / WOB 15K-18K / TOP DRIVE RPM 40-60 / PUMP 12 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 1575/1350 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 114/98/9104 TORQUE ON/OFF BOTTOM 6K/3K / SLIDE 80' IN 30 MIN 15% OF FOOTAGE DRILLED 15% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 2.0 PPG		
	6:00	- 15:00	9.00	DRLPRO	02	D	Р		DRILL/ SLIDE/ SURVEY F/3382 TO 4689' = 1307 '@145.2 FPH / / WOB 15K-18K / TOP DRIVE RPM 40-60 / PUMP SPM =120= 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 1950/1610 PSI / MUD MOTOR RPM 115 / PU/SO/ROT 146/114/126 TORQUE ON/OFF BOTTOM 9K/5K / SLIDE 66' IN 60 MIN 5% OF FOOTAGE DRILLED 10.5% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 2.0 PPG		
		- 15:30	0.50	DRLPRO	07	A	P		RIG SERVICE		
	15:30	- 0:00	8.50	DRLPRO	02	D	Р		DRILL/ SLIDE/ SURVEY F/4689 TO 5824' = 1135 '@133.5 FPH / / WOB 16K-24K / TOP DRIVE RPM 40-60 / PUMP SPM =120= 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2060/1725 PSI / MUD MOTOR RPM 115 / PU/SO/ROT 163/130/ 143 TORQUE ON/OFF BOTTOM 9K/8K / SLIDE 40' IN 30 MIN 3% OF FOOTAGE DRILLED 10.6% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS		

+/-2.0 PPG

3

10:06:13AM

Vell: NBU 921-	20D4BS I	RED		Spud Cor	nductor: 6	5/19/2011		Spud Date: 5/29	)/2011		
roject: UTAH-I	UINTAH			Site: NBU	921-20	PAD		i	Rig Name No: H&P 298/298, CAPSTAR 310/310		
vent: DRILLIN	G			Start Date	e: 5/9/201	1	T		End Date: 6/24/2011		
ctive Datum: F	RKB @4,8	19.01ft (abov	e Mean Sea	UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/							
evel)	ai i amusia	ersenant er en en Romanisch		A SECURE AND SECURE AND		Hangari Serenga I	1.4502000-030	t in a series of the contract of the con-			
Date	10.3 (17.9° 16.24 £ 4.1°	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation		
6/16/2011		- 6:00 - 15:00	6.00	DRLPRO DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/5824 TO 6500 = 675'  @112.6 FPH // WOB 16K-24K / TOP DRIVE RPM 40-70 / PUMP SPM =122= 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2090/1860 PSI / MUD MOTOR RPM 115 / PU/SO/ROT 184/136/ 156 TORQUE ON/OFF BOTTOM 9K/8K / SLIDE 40' IN 30 MIN 3% OF FOOTAGE DRILLED 10.6% OF HRS DRILLED / WT 8.4 VIS 26 / H2O + POLYMER W/ WEIGHTED SWEEPS +/-2.0 PPG DRILL/ SLIDE/ SURVEY F/6500 TO 7244 = 744'		
	15:00	- 15:30	0.50	DRLPRO	07	A	P		@82.6 FPH // WOB 16K-24K / TOP DRIVE RPM 40-70 / PUMP SPM = 122= 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2180/1920 PSI / MUD MOTOR RPM 115 / PU/SO/ROT 214/146/ 170 TORQUE ON/OFF BOTTOM 12K/8K / SLIDE 18' IN 45 MIN 2.4% OF FOOTAGE DRILLED 8.3% OF HRS DRILLED / WT 8.4 VIS 26 / H2O + POLYMER W/ WEIGHTED SWEEPS +/-2.0 PPG RIG SERVICE		
		- 0:00	8.50	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/7244 TO 7710 = 466		
		0.00			<b>-</b>	-			@54.8 FPH // WOB 16K-24K / TOP DRIVE RPM 40-70 / PUMP SPM =120= 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2120/1920 PSI / MUD MOTOR RPM 115 / PU/SO/ROT 212/149/ 164 TORQUE ON/OFF BOTTOM 10K/9K / SLIDE 16' IN 25 MIN 3.4% OF FOOTAGE DRILLED 5% OF HRS DRILLED MW 9.4 VIS 31 / MUD UP @ 7300' / NO MUD LOSS / 5' FLARE		
6/17/2011	0:00	- 6:00	6.00	DRLPRO	02	D	P		DRILL/ SURVEY F/7710 TO 8030 = 466 @53.4 FPH / WOB 16K-24K / TOP DRIVE RPM 40-70 / PUMP SPM =120= 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2405/2220 PSI / MUD MOTOR RPM 115 / PU/SO/ROT 224/150 174 TORQUE ON/OFF BOTTOM 10K/9K / MW 9.4 VIS 31 / MUD UP @ 7300' / NO MUD LOSS /		
	6:00	- 14:00	8.00	DRLPRO	02	D	P		DRILL/ SURVEY F/8030 TO 8375 =345 @43.1 FPH / WOB 16K-24K / TOP DRIVE RPM 40-70 / PUMP SPM =110= 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2320/2060 PSI / MUD MOTOR RPM 104/ PU/SO/ROT 220/158 184TORQUE ON/OFF BOTTOM 9K/8K / MW10.3 VIS 34 / BYPASS SHAKERS @ 8075' / MUD LOSS 80 BBLS SEEPAGE TO HOLE / LCM 3%		
		- 14:30 - 0:00	0.50	DRLPRO	07 ∘03	A D	P P		RIG SERVICE		
	14.50	- 0:00	9.50	DRLPRO	02	٠.	r		DRILL/ SURVEY F/8375 TO 8900= 525'@ 55.2 FPH / WOB 16K-24K / TOP DRIVE RPM 40-70 / PUMP SPM =110= 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2520/2400 PSI / MUD MOTOR RPM 104 / PU/SO/ROT 223/160 185 TORQUE ON/OFF BOTTOM 12K/9K SLIDE 20' IN 40 MIN 4% OF FOOTAGE DRILLED 7% OF HRS DRILLED / MW 11.4VIS 37 LCM 10% / MUD LOSS 30 BBLS / GAS 7035 UNITS 15' FLARE@ 8800'		

10/18/2011 10:06:13AM 4

Vell: NBU 921-	20D4BS	RED		Spud Co	nductor:	5/19/2011	and the second s	Spud Date: 5/29/2011
roject: UTAH-l				Site: NBL	J 921-20E	PAD		Rig Name No: H&P 298/298, CAPSTAR 310/310
vent: DRILLIN	G			Start Date	e: 5/9/201	11	1	End Date: 6/24/2011
ctive Datum: F	KB @4,8	19.01ft (abo\	ve Mean Sea		UWI: N	W/NW/0/9	/S/21/E/2	0/0/0/26/PM/N/963/N/0/1252/0/0
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (ft)
6/18/2011	0:00	- 6:00	6.00	DRLPRO	02	С	P	DRILL/ SURVEY F/8900 TO 9130= 230"@ 38.3 FPH / WOB 16K-24K / TOP DRIVE RPM 40-70 / PUMP SPM =110= 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2800/2550 PSI / MUD MOTOR RPM 104 / PU/SO/ROT 227/161 /188/TORQUE ON/OFF BOTTOM 12K/9K SLIDE 34' IN 110 MIN 414% OF FOOTAGE DRILLED 36% OF HRS DRILLED / MW 11.8 VIS 40 LCM 10% /40 BBL MUD LOSS
	6:00	- 15:00	9.00	DRLPRO	02	D	P	DRILL/ SURVEY F/ 9130 TO 9503= 373'@ 41.4 FPH / WOB 16K-24K / TOP DRIVE RPM 40-70 / PUMP SPM =110= 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2500/2240 PSI / MUD MOTOR RPM 95/ PU/SO/ROT 235/166 /197/TORQUE ON/OFF BOTTOM 10K/8K / MW 12.1 VIS 42 LCM 15% /MUD LOSS 60 BBLS
		- 15:30	0.50	DRLPRO	07	A	P	RIG SERVICE BOP DRILL
		- 21:00	5.50	DRLPRO	02	D	P	DRILL/ SURVEY F/9503 TO 9646= '143'@ 26.0 FPH / WOB 16K-24K / TOP DRIVE RPM 40-70 / PUMP SPM =110= 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2800/2510 PSI / MUD MOTOR RPM 95/ PU/SO/ROT 235/166 197/TORQUE ON/OFF BOTTOM 10K/10K / MW 12.2 VIS 42 LCM 15% / NOMUD LOSS
		- 22:00	1.00	DRLPRO	05	C	P	CCH FOR / BIT TRIP
*/4070044		- 0:00	2.00	DRLPRO	06	A	P P	TRIP:BACK REAM OUT 5 STDS, PUMP SLUG TOH,
6/19/2011	0.00	- 4:00	4.00	DRLPRO	:06	A	r	TOH, WORK THROUGH TIGHT HOLE @ 5029', ,FLOW CHECK,@ CSG SHOE,PULL ROTA RUBBER,,TOH PULL MWD TOOL,, ,FUNCT TEST BOP, BREAK BIT
	4:00	- 6:00	2.00	DRLPRO	06	Α	Р	X/O M MTRS & BIT, SCRIBE DIR TOOLS, INSTALL MWD SURFACE TEST TOOLS, TIH W/ BHA
	6:00	- 10:00	4.00	DRLPRO	06	Α	P	TIH BREAK CIRC @ CSG SHOE,6500,WASH 95' TO BTM 10' FILL
		- 15:00 - 15:30	5.00 0.50	DRLPRO	02	D A	P	DRILL/ SURVEY F/ 9646 TO 9885= 239'@ 47.8 FPH / WOB 16K-22K / TOP DRIVE RPM 40-70 / PUMP SPM =100= 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2420/2250 PSI / MUD MOTOR RPM 72/ PU/SO/ROT 235/166 197/TORQUE ON/OFF BOTTOM 12K/8K / MW 12.3 VIS 44 LCM 15% / 15' FLARE ON BTMS UP / NO MUD LOSS RIG SERVICE
		- 0:00	8.50	DRLPRO	02	D	P	DRILL/ SURVEY F/ 9885 TO 10,265=380'@ 44.7
6/20/2011		- 6:00	6.00	DRLPRO	02	D	P	FPH / WOB 16K-22K / TOP DRIVE RPM 40-70 / PUMP SPM =100= 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2500//2275 PSI / MUD MOTOR RPM 72/ PU/SO/ROT 256/182 201/TORQUE ON/OFF BOTTOM 12K/8K / MW 12.3 VIS 45 LCM 15% / NO MUD LOSS DRILL/ SURVEY F/ 10,265 TO 10,500=235'@ 39.1
0/20/2011	3.30		0.00	with NV		~	•	FPH / WOB 16K-23K / TOP DRIVE RPM 40-70 / PUMP SPM =100= 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2500//2275 PSI / MUD MOTOR RPM 72/ PU/SO/ROT 235/166 197/TORQUE ON/OFF BOTTOM 12K/8K / MW 12.3 VIS 42 LCM 15% / NO MUD LOSS

10/18/2011 10:06:13AM

#### **Operation Summary Report**

 Well: NBU 921-20D4BS RED
 Spud Conductor: 5/19/2011
 Spud Date: 5/29/2011

 Project: UTAH-UINTAH
 Site: NBU 921-20D PAD
 Rig Name No: H&P 298/298, CAPSTAR 310/310

 Event: DRILLING
 Start Date: 5/9/2011
 End Date: 6/24/2011

Event: DRILLIN	IG			Start Date	e: 5/9/201	1		End Date: 6/24/2011			
Active Datum: F Level)	RKB @4,8	119.01ft (abo	ve Mean Sea		UWI: N\	N/NW/0/9	/S/21/E/20/0/0/26/PM/N/963/W/0/1252/0/0				
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U MD From (ft)	Operation			
	6:00	- 0:00	18.00	DRLPRO	02	D	P	DRILL/ SURVEY F/ 10,500' TO 10,855=355'@ 19.72 FPH / WOB 18K-23K / TOP DRIVE RPM 40-50 / PUMP SPM =100= 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2600//2400 PSI / MUD MOTOR RPM 72/ PU/SO/ROT 245/185 210/TORQUE ON/OFF BOTTOM 12K/8K / MW 12.4 VIS 43 LCM 15% / NO MUD LOSS			
6/21/2011	0:00	- 15:30	15.50	DRLPRO	02	D	P	DRILL/ SURVEY F/ 10,855' TO 11,215 = 360'@ 23,22 FPH / WOB 18K-23K / TOP DRIVE RPM 40-50 / PUMP SPM =100= 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2680/2470 PSI / MUD MOTOR RPM 72/ PU/SO/ROT 265/175 215 / TORQUE ON/OFF BOTTOM 15K/12K / MW 12.5+ VIS 45 LCM 15% / NO MUD LOSS / MAX GAS 5,055 UNITS			
		- 16:00	0.50	DRLPRO	07	Α	P	SERVICE RIG @ 11,215			
	16:00	- 0:00	8,00	DRLPRO	02	D	P	DRILL/ SURVEY F/ 11,215' TO 11,415' =200' @ 25 FPH / WOB 18K-23K / TOP DRIVE RPM 40-50 / PUMP SPM =100= 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2680/2470 PSI / MUD MOTOR RPM 72/ PU/SO/ROT 275/180 220 / TORQUE ON/OFF BOTTOM 15K/12K / MW 12.5+ VIS 45 LCM 15% / NO MUD LOSS / MAX GAS 3355 UNITS			
6/22/2011	0:00	- 3:30	3.50	DRLPRO	02	D	P	DRILL/ SURVEY F/ 11,415' TO 11,480' TD = 65' @ 18.57 FPH / WOB 18K-23K / TOP DRIVE RPM 40-50 / PUMP SPM =100= 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2680/2470 PSI / MUD MOTOR RPM 72/ PU/SO/ROT 275/180 220 / TORQUE ON/OFF BOTTOM 15K/12K / MW 12.5+ VIS 45 LCM 15% / NO MUD LOSS / MAX GAS 3355 UNITS			
	3:30	- 5:00	1.50	DRLPRO	05	С	Р	CIRC & COND MUD @ 11,480'			
	5:00	- 9:30	4.50	DRLPRO	06	E	P _	WIPER TRIP F/ 11,480' TO 2,825' W/ NO PROBLEMS / FLOW CHECK - OK			
	9:30	- 10:00	0.50	DRLPRO	07	Α _	P _	SERVICE RIG @ 2,825'			
	10:00	- 14:00	4.00	DRLPRO	06	E	P	TIH F/ 2,825' TO 11,300' WASH LAST 180 ' TO BTM @ 11,480' / NO FILL / NO PROBLEMS			
		- 17:00	3.00	DRLPRO	05	C	P	CIRC & COND MUD @ 11,480' MAX GAS 3,785 UNITS / 2/10'S MUD CUT W / 4' FLARE			
		- 23:00	6,00	DRLPRO	06	Α _	<b>.</b>	TOOH TO RUN OPEN LOGS F/ 11,480' TO BIT / LD MTR & BIT			
		- 0:00	1.00	DRLPRO	11	D	P	PJSM / RU HALLIBURTON LOGGING EQUIPMENT			
6/23/2011	0:00	- 10:00	10.00	DRLPRO	11	D	P	RUN # 1 TRIPPLE COMBO W/ HALLIBURTON F/ 11,490' TO 200' 2ND RUN SONIC DIPOLE & FMI F/ 5,200' TO 2,832' RD LOGGING EQUIPMENT / LOGGERS DEPTH 11,494' DRILLERS DEPTH 11,480' NOTE: WORK TRIPPLE COMBO THRU TIGHT HOLE 5,400')			
	10:00	- 10:30	0.50	DRLPRO	14	В	Р	PULL WEAR BUSHING & CHANGE BAILS			

10/18/2011 10:06:13AM

10:30 - 11:30

11:30 - 21:30

21:30 - 23:00

DRLPRO

DRLPRO

COMP

1.00

10.00

1.50

12

12

05

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PJSM RU WEATHERFORD TRS CSG EQUIPMENT

RUN 279 JTS OF 4 1/2" 11.60 P -110 BTC CSG / SHOE @ 11,472' FLOAT COLLAR @ 11428' Mverde Marker @ 8,125' Wasatch Marker @ 5,102'

CIRC & COND MUD W/ 70 SPM @ 750 PSI / MAX

GAS ON BTMS UP

Well: NBU 921-	20D4BS	RED		Spud Co	nductor:	5/19/2011	Spi	ud Date: 5/29/2011
Project: UTAH-	UINTAH			Site: NBt	J 921-20I	D PAD		Rig Name No: H&P 298/298, CAPSTAR 310/310
Event: DRILLIN	IG			Start Dat	e: 5/9/20	11		End Date: 6/24/2011
Active Datum: I	RKB @4,8	319.01ft (abov	e Mean Sea		UWI: N	W/NW/0/9	)/S/21/E/20/0/0	/26/PM/N/963/W/0/1252/0/0
Level)		e njerov sem se se se se se se	recorde entropesor	restriction			*	
Date	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Time tart-End	Duration (hr)	Phase	Code	Sub Code		AID From Operation (ft)
6/24/2011	23:00 0:00	- 0:00 - 4:00	4.00	COMP	12	E	P P	PJSM/ RU BJ SERVICES / TEST LINES TO 5,000 PSI/ PUMP 40 BBL WATER / FOLLOWED W/ 700 SX LEAD CEMENT @ 12.5 ppg (PREM LITE II ) 173.98 BBLS FRESH WATER / (10.44 gal/sx, 1.98 yield) CONT W/ CMT JOB PUMP 1340 SX TAIL @ 14.3 ppg (CLS G 50/50 POZ 188.7 BBLS H2O / (5.90 gal/sx,
								1.31 yield) / DROP PLUG & DISPLACE W/ 177 BBLS H2O + ADDITIVES / PLUG DOWN @ 02:00 LIFT PRESSURE @ 3300 PSI BUMP PRESSURE @ 3900 PSI W/ 5 BBLCMT BACK TO PIT / FLOATS HELD W/ 2 BBLS H2O RETURNED TO INVENTORY / TOP OF TAIL CEMENT CALCULATED @ 4600' FULL RETURNS THROUGH OUT JOB, RD CMT EQUIP
	4:00 5:00	- 5:00	1.00	COMP	14	A A	P P	RAISE BOP/ SET SLIPS W/ 115K / CUT OF CSG
	5.00	- 6:00	1.00	COMP	14	^	r	ND BOP'S / CLEAN PITS / PREPARE TO SKID RELEASE RIG @ 06:00 6/24/11
		- 6:00	0.00	COMP				PRODUCTION: Rig Move/Skid start date/time:6/12/2011 0:00 Rig Move/Skid finish date/time:6/14/2011 2:00 Total MOVE hours:50.0 Prod Rig Spud date/time:6/15/2011 1:30 Rig Release date/time:6/24/2011 6:00 Total SPUD to RR hours:220.5 Planned depth MD11,460 Planned depth TVD11400 Actual MD:11,480 Actual TVD:11,419 Open Wells \$: AFE \$: Open wells \$/ft:
								PRODUCTION HOLE: Prod. From depth:2825
								Prod. To depth:11,480 Total PROD hours: 153 Log Depth:11,490
								Production Casing size:4 1/2 # of casing joints ran:279 Casing set MD:11,472.0
								# sx of cement:2,040 Cement blend (ppg:)12.5 / 14.3
							N.	Cement yield (ft3/sk):1.98 / 1.31 Est. TOC (Lead & Tail) or 2 Stage :0 / 4600 Describe cement issues:FULL RETURNS 5 BBL BACK TO PITS 2 BBL WATER TO INVENTORY / BUMP PLUG / FLOATS HELD
								Describe hole issues:NONE
								DIRECTIONAL INFO:DIRECTIONAL KOP:272 Max angle:13.86
								Departure:599.00
								Max dogleg MD:2.32 / 841

#### 1 General

#### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

#### 1.2 Well/Wellbore Information

Well	NBU 921-20D4BS RED	Wellbore No.	ОН
Well Name	NBU 921-20D4BS	Wellbore Name	NBU 921-20D4BS
Report No.	1	Report Date	9/9/2011
Project	UTAH-UINTAH	Site	NBU 921-20D PAD
Rig Name/No.		Event	COMPLETION
Start Date	9/9/2011	End Date	9/22/2011
Spud Date	5/29/2011	Active Datum	RKB @4,819.01ft (above Mean Sea Level)
UWI	NW/NW/0/9/S/21/E/20/0/0/26/PM/N/963/W/0/12	252/0/0	

#### 1.3 General

Contractor	CASEDHOLE SOLUTIONS	Job Method	PERFORATE	Supervisor	DAVE DANIELS
Perforated Assembly	PRODUCTION CASING		WIRELINE		

#### 1.4 Initial Conditions

Fluid Type		Fluid Density	
Surface Press		Estimate Res Press	
TVD Fluid Top		Fluid Head	
Hydrostatic Press		Press Difference	
Balance Cond	NEUTRAL		

#### 1.5 Summary

Gross Interval	8,003.0 (ft)-11,219.0 (ft)	Start Date/Time	9/12/2011	12:00AM	
No. of Intervals	39	End Date/Time	9/12/2011	12:00AM	
Total Shots	236	Net Perforation Interval		70.00	(ft)
Avg Shot Density	3.37 (shot/ft)	Final Surface Pressure			
		Final Press Date			

#### 2 Intervals

#### 2.1 Perforated Interval

Date Formation/ CCL@ Reservoir (ff)	CCL-T MD Top I		Misfires/ Diamete Carr Type /Carr Manuf Add. Shot r (in)	Carr Phasing C Size (°)	harge Desc/Charge Charge Reason Misrun Manufacturer Weight (gram)
9/12/2011 MESAVERDE/	8,003.0	8,005.0 3.00	0.360 EXP/	3.375 120.00	23.00 PRODUCTIO
12:00AM	4				: N

#### 2.1 Perforated Interval (Continued)

Date	Formation/ CCL	@ CCL-T N	M D TOP M	D Base	Shot	Misfires/	Diamete	Carr Type /Carr Manuf	Carr	Phasing	Charge Desc /Charge		
	Reservoir (ft	)   S	(ft)	(ft)	Density	Add. Shot	r		Size	(°)	Manufacturer	Charge Reason Weight	Misrun
9/12/2011	MESAVERDE/	(ft)	8.029.0	8,031.0	(shot/ft) 3.00		(in)	EVD/	(in)	400.00		(gram)	
12:00AM	MEO, WEIGH		0,023.0	0,031.0	3.00		0.360	EAP/	3.375	120.00		23.00 PRODUCTIO N	
1	MESAVERDE/		8,093.0	8,095.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO	
12:00AM												N N	
9/12/2011 12:00AM	MESAVERDE/		8,127.0	8,129.0	3.00	:	0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/		8,259.0	8,260.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/		8,339.0	8,340.0	4.00		0.360	EXP/	3.375	90.00	e de la companya de	23.00 PRODUCTIO	
	MESAVERDE/		8,356.0	8,358.0	3.00		0.360	EXP/	3.375	120.00		N 23.00 PRODUCTIO	gara sommer.
	MESAVERDE/		8,496.0	8,498.0	3.00		0.360	EXP/	3.375	120.00		N 23.00 PRODUCTIO	
9/12/2011 12:00AM	MESAVERDE/		8,506.0	8,507.0	4.00		0.360	EXP/	3.375	90.00		N 23.00 PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/		8,575.0	8,576.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO	
12:00AM	MESAVERDE/		8,632.0	8,633.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	
12:00AM	MESAVERDE/		8,658.0	8,659.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	:
9/12/2011 12:00AM	MESAVERDE/		8,677.0	8,678.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/		8,706.0	8,707.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/		8,740.0	8,741.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO	
9/12/2011 12:00AM	MESAVERDE/		8,789.0	8,791.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	† · · · · · · · · · · · · · · · · · · ·
9/12/2011 12:00AM	MESAVERDE/		8,832.0	8,834.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/		8,910.0	8,912.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO	
9/12/2011 12:00AM	MESAVERDE/		9,178.0	9,181.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/		9,304.0	9,306.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	1
12:00AM	MESAVERDE/		9,522.0	9,524.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO	
9/12/2011 12:00AM	MESAVERDE/		9,566.0	9,568.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	

#### 2.1 Perforated Interval (Continued)

Date	Formation/ CCL		MD Тор	医髓管 "我们是我们的现在分词	Shot	Misfires/	Diamete	Сап Туре /Caп Manuf	Carr	Phasing	Charge Desc/Charge	Charge Reason	Misrun
	Reservoir (ft)	S (ft)	(ft)	(ft)	Density (shot/ft)	Add. Shot	(in)		Size (in)	(°)	Manufacturer	Weight	1
9/12/2011 12:00AM	MESAVERDE/	i	9,640.0	9,642.0	3.00	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	0.360	EXP/	3.375	120.00		(gram) 23.00 PRODUCTIO N	1
9/12/2011 12:00AM	MESAVERDE/		9,721.0	9,723.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO	ere e e e e e e e e e e e e e e e e e e
9/12/2011 12:00AM	MESAVERDE/		10,011.0	10,013.0	3.00		0.360	EXP/	3.375	120.00		N 23.00 PRODUCTIO	
9/12/2011 12:00AM	MESAVERDE/		10,048.0	10,050.0	3.00	· · · · · · · · · · · · · · · · · · ·	0.360	EXP/	3.375	120.00		N 23.00 PRODUCTIO	
9/12/2011 12:00AM	MESAVERDE/		10,239.0	10,242.0	3.00		0.360	EXP/	3.375	120.00		N 23.00 PRODUCTIO	
9/12/2011 12:00AM	MESAVERDE/		10,912.0	10,913.0	4.00		0.360	EXP/	3.375	90.00		N 23.00 PRODUCTIO	
9/12/2011 12:00AM	MESAVERDE/		10,932.0	10,934.0	3.00		0.360	EXP/	3.375	120.00		N 23.00 PRODUCTIO	
9/12/2011 12:00AM	MESAVERDE/		10,954.0	10,955.0	4.00		0.360	EXP/	3.375	90.00		N 23.00 PRODUCTIO	1
9/12/2011 12:00AM	MESAVERDE/		10,990.0	10,992.0	4.00		0.360	EXP/	3.375	90.00	en e	N 23.00 PRODUCTIO	
9/12/2011 12:00AM	MESAVERDE/		11,006.0	11,008.0	3.00	5.	0.360	EXP/	3.375	120.00		N 23.00 PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/		11,070.0	11,071.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO	
9/12/2011 12:00AM	MESAVERDE/		11,080.0	11,083.0	3.00	1	0.360	EXP	3.375	120.00		N 23.00 PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/		11,101.0	11,103.0	4.00		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/		11,128.0	11,129.0	4.00		0.360	EXP/	3.375	90.00	· · · · · · · · · · · · · · · · · · ·	23.00 PRODUCTIO	<u></u>
9/12/2011 12:00AM	MESAVERDE/	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11,181.0	11,184.0	3.00		0.360	EXP	3.375	120.00		N 23.00 PRODUCTIO	A I
the second second	MESAVERDE/		11,207.0	11,209.0	3.00		0.360	EXP/	3.375	120.00		N 23.00 PRODUCTIO	1
the second second	MESAVERDE/		11,216.0	11,219.0	3.00		0.360	EXP/	3.375	120.00		N 23.00 PRODUCTIO N	<u>-</u>

#### 3 Plots

## **Operation Summary Report**

Well: NBU 921-20D4BS RED	Spud Conductor: 5/19/2011	011
Project: UTAH-UINTAH	Site: NBU 921-20D PAD	Rig Name No: MILES 3/3
Event: COMPLETION	Start Date: 9/9/2011	End Date: 9/22/2011

tive Datum: F vel)	RKB @4,8	19,01ft (abo	ove Mean Sea		UWI: N	UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/963/W/0/1252/0/0					
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation		
9/8/2011	6:45	- 7:00	0.25	COMP	48		Р		HELD SAFETY MEETING HIGH PRESSURE		
	7:00	- 11:00	4.00	COMP	33	С	Р		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 13 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 31 PSI. 1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 288 PSI. 2ND PSI TEST T/ 9000 PSI. HELD FOR 30 MIN. LOST		
									250 PSI 3RD PSI TEST T/ 9000 PSI. HELD FOR 30 MIN. LOST 181 PSI 4TH PSI TEST T/ 9000 PSI. HELD FOR 30 MIN. LOST 219 PSI NOTE: NO COMMUNICATION WITH SURFACE BLEED OFF PSI. MOVE T/ NEXT WELL. SWIFWE		
9/9/2011	7:00	- 10:30	3.50	COMP	31	Α	P		RD ON COGE 10 MOVE IN WAIT ON W L TO RD & MOVE OUT		
	10:30	- 12:30	2.00	COMP	31		P		RU RIG AND EQUIP RU FLOOR TONGS ETC		
	12:30	- 20:30	8.00	COMP	31		P		PU BKR RETERVOMATIC PKR RIH W 135 JTS L-80M TBG TO 4299 SET PKR.  FILL HOLE RU B & C QUICK TEST TEST DOWN TBG TO 5000 PSI 30 MIN LOST 188 PSI BLED WELL DOWN TIE INTO THE CSG PRESSURE TO 5000 PSI TEST FOR 30 MIN LOST 205 PSI BLED WELL OFF RIH TO 5000 SET PKR RU B & C QUICK TEST. TEST CSG TO 5000 PSI FOR 30 MIN LOST 130 PSI. BLED WELL DOWN TIED INTO TBG TEST TO 5000 PSI 30 MIN LOST 207 PSI BLED WELL DOWN RELEASED PKR SWIFN		
9/10/2011	7:00	- 13:00	6.00	COMP	31		P		POOH WITH 158 JTS 2 3/8 L-80 ND BOPES NU FRAC VALVES RD RIG AND EQUIP MOVED OFF LOCATION		

#### **US ROCKIES REGION Operation Summary Report** Spud Conductor: 5/19/2011 Spud Date: 5/29/2011 Well: NBU 921-20D4BS RED Site: NBU 921-20D PAD Rig Name No: MILES 3/3 Project: UTAH-UINTAH End Date: 9/22/2011 **Event: COMPLETION** Start Date: 9/9/2011 UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/963/W/0/1252/0/0 Active Datum: RKB @4,819.01ft (above Mean Sea Level) Date Phase Code Sub P/U MD From Operation Duration Time Start-End Code (hr) 7:00 - 18:00 COMP 36 Р RU CASED HOLE SOLUTIONS AND SUPERIOR TO 11.00 В 9/12/2011 FRAC AND PERF WELLS PERF STG 1)PU 4 1/2 8K HAL CIBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 11,329' P/U PERF AS PER PERF DESIGN. POOH. NOTE :CAST IRON BRIDGE PLUG: FRAC STG 1)WHP 400 PSI, BRK 4441 PSI @ 4.9 BPM, ISIP 3861 PSI, FG .78 CALC HOLES OPEN @ 50.0 BPM @ 8044 PSI = 75% HOLES OPEN. ISIP 4237 PSI, FG .82, NPI 376 PSI. MP 8493 PSI, MR 50.5 BPM, AP 7260 PSI, AR 50.1 X-OVER FOR W L PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 & 120 DEG PHASING. RIH SET CBP @ 11,159 ' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW FRAC STG 2)WHP 1350 PSI, BRK 5389 PSI @ 4.7 BPM. ISIP 3856 PSI, FG .79 CALC HOLES OPEN @ 50.1 BPM @ 8023 PSI = 76% HOLES OPEN. ISIP 4073 PSI, FG .81, NPI 217 PSI. MP 8909 PSI, MR 50.4 BPM, AP 7996 PSI, AR 46.9 **BPM** X-OVER FOR W L NOTE: ONLY WENT TO 1.5 # SAND CONCENTRATION AFTER SWEEP PERF STG 3)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE, 90 & 120 DEG PHASING. RIH SET CBP @ 11,038' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW FRAC STG 3)WHP 1474 PSI, BRK 5163 PSI @ 4.8 BPM. ISIP 3947 PSI, FG .80. CALC HOLES OPEN @ 50.1 BPM @ 7425 PSI = 77% HOLES OPEN. ISIP 3791 PSI, FG .78, NPI -156 PSI. MP 8611 PSI, MR 50.5 BPM, AP 7204 PSI, AR 49.7 **BPM** X-OVER FOR W L PERF STG 4)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 10.262' P/U PERF AS PER PERF DESIGN. POOH, SWIFN 6:45 COMP 48 Р SAFETY MEETING THUNDERSTORMS ,FRAC 9/13/2011 - 7:00 0.25 VALVES, PPE

Well: NBU 921-20D4BS RED	Spud Co	nductor: 5/	19/2011		Spud Date: 5/29/2011			
Project: UTAH-UINTAH	Site: NBL	921-20D	PAD		Rig Name No: MILES 3/3			
Event: COMPLETION	Start Date	e: 9/9/2011			End Date: 9/22/2011			
Active Datum: RKB @4,819.01ft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/963/W/0/1252/0/0						
Date Time Duration Start-End (hr)	Phase	Code	Sub Code	.P/U	MD From Operation (ft)			
	COMP	36		P/U				
					POOH. X-OVER FOR FRAC CREW			
					FRAC STG 7)WHP 1331 PSI, BRK 4282 PSI @ 4.7 BPM. ISIP 2452 PSI, FG .72 CALC HOLES OPEN @ 45.5 BPM @ 6371 PSI = 91% HOLES OPEN. ISIP 2846 PSI, FG .76, NPI 394 PSI. MP 6580 PSI, MR 50.9 BPM, AP 5468 PSI, AR 49.5 BPM X-OVER FOR W L			
					PERF STG 8)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE, 90 DEG PHASING. RIH SET			

10/18/2011 10:17:10AM

#### **US ROCKIES REGION Operation Summary Report** Well: NBU 921-20D4BS RED Spud Conductor: 5/19/2011 Spud Date: 5/29/2011 Site: NBU 921-20D PAD Rig Name No: MILES 3/3 Project: UTAH-UINTAH Event: COMPLETION End Date: 9/22/2011 Start Date: 9/9/2011 UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/963/W/0/1252/0/0 Active Datum: RKB @4,819.01ft (above Mean Sea Level) P/U Operation Phase Code Sub MD From Date Time Duration Start-End Code (hr) CBP @ 8771' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW FRAC STG 8)WHP 1530 PSI, BRK 3476 PSI @ 6.1 BPM. ISIP 2696 PSI, FG .75. CALC HOLES OPEN @ 39.5 BPM @ 6057 PSI = 61% HOLES OPEN. ISIP 2789 PSI, FG .76, NPI 113 PSI. MP 6453 PSI, MR 51.0 BPM, AP 5575 PSI, AR 49.4 **BPM** X-OVER FOR W L PERF STG 9)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE, 90 DEG PHASING, RIH SET CBP @ 8537' P/U PERF AS PER PERF DESIGN. POOH, SWIFN HELD SAFETY MEETING RD & MOVING, CRANES 9/14/2011 6:45 - 7:00 0.25 COMP 48 В 7:00 - 12:00 5.00 COMP 36 Ρ FRAC STG 9)WHP 1749 PSI, BRK 2475 PSI @ 4.0 BPM. ISIP 1984 PSI. FG .68. CALC HOLES OPEN @ 50.1 BPM @ 6042 PSI = 74% HOLES OPEN. ISIP 2766 PSI, FG .77, NPI 782 PSI. MP 6454 PSI, MR 51.0 BPM, AP 5080 PSI, AR 50.3 RPM X-OVER FOR W L PERF STG 10)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8159' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW FRAC STG 10)WHP 1574 PSI, BRK 4689 PSI @ 4.8 BPM. ISIP 2359 PSI, FG .73 CALC HOLES OPEN @ 37.3 BPM @ 6362 PSI = 60% HOLES OPEN. ISIP 2738 PSI, FG .78 NPI 379 PSI. MP 6562 PSI, MR 51.7 BPM, AP 5845 PSI, AR 46.9 **BPM** X-OVER FOR W L PU 4 1/2 CBP RIH SET @ 7953 POOH SWI RD **CASED HOLE & SUPERIOR MOVED** OFF LOCATION TOTAL SAND = 487,431 # TOTAL CLFL = 19,678 BBLS 12:00 - 14:30 MOVE OVER FROM 921-20B3CS, RUSU, ND WH, NU 9/20/2011 2.50 COMP 30 4" 10K BOP, RU FLOOR. 14:30 - 18:00 3.50 COMP 31 MU WFORD 4-1/2" HD PKR, 1,87" XN AND RIH AS MEAS AND PU 2-3/8" L-80 TBG. RAN 181-JTS. EOT AT 5721', SDFN

# **Operation Summary Report**

Well: NBU 921-20D4BS RED	Spud Conductor: 5/19/2011	Spud Date: 5/29/2011
Project: UTAH-UINTAH	Site: NBU 921-20D PAD	Rig Name No: MILES 3/3
Event: COMPLETION	Start Date: 9/9/2011	End Date: 9/22/2011
Active Datum: RKB @4,819.01ft (above Mean Sea	UWI: NW/NW/0/9/S/21	/E/20/0/0/26/PM/N/963/W/0/1252/0/0

Active Datum: RKB @4,819.01ft (above Mean Sea

Level)										
Date	Date Time Start-End		Phase	Code	Sub Code	P/U	MD From (ft)	Operation		
9/21/2011	7:00 - 7:15	(hr) 0.25	COMP	48		P		JSA- PU TBG. PRES TESTING.		
	7:15 - 8:00	0.75	COMP	31	I	Р		SITP 0, SICP 0, SURFACE CSG OPEN. CONT RIH W/ WFORD 4-1/2" PKR AS MEAS AND PU TBG. HAVE 251-JTS IN, EOT 7949'.		
	8:00 - 9:30	1.50	COMP	31	Н	₽		ROLL HOLE W/ 120 BBLS TMAC AT 2 BPM. FILL SURFACE CSG AND LEAVE OPEN. (PRES TEST B&C UNIT TO 5000#. LOST 55 PSI IN 15 MIN, REPLACE NEEDLE VALVE AND RETEST. LOST 28 PSI IN 15 MIN. GOOD)		
	9:30 - 13:30	4.00	СОМР	33	D	P		SET PKR AT 7936'. RU B&C. TEST DOWN TBG TO 5254#. LOST 46# IN 30 MIN TO 5208#. CSG-START TO PRES UP AND PIPE RAMS LEAKING, X-OUT PIPE RAMS. TEST DOWN CSG TO 5105#. LOST 137# IN 30 MIN TO 4968#. SURFACE AT 0#. RETEST DOWN CSG TO 5101#. LOST 105# IN 30 MIN TO 4996#. SURFACE AT 0#. RETEST DOWN CSG TO 5251#. LOST 98# IN 30 MIN TO 5153#. SURFACE 0#. RETEST DOWN CSG TO 5358#. LOST 98# IN 30 MIN TO 5260#. SURFACE 0#. CONFER W/ JEFF SAMUELS. BLEED OFF PRESSURE.		
	13:30 - 15:00	1.50	COMP	31	1	P		RELEASE PKR FROM 7936', POOH W/ 251-JTS TBG. LD PKR.		
	15:00 - 17:30	2.50	COMP	31	1	P		MU 3-7/8" BIT, POBS AND 1.87" XN. RIH W/ 250-JTS TBG. RU PWR SWIVEL. SDFN		
9/22/2011	7:00 - 7:15	0.25	COMP	48		P		JSA- D/O PLUGS. HIGH PRESSURE WELL.		

#### **US ROCKIES REGION Operation Summary Report** Well: NBU 921-20D4BS RED Spud Conductor: 5/19/2011 Spud Date: 5/29/2011 Site: NBU 921-20D PAD Project: UTAH-UINTAH Rig Name No: MILES 3/3 End Date: 9/22/2011 **Event: COMPLETION** Start Date: 9/9/2011 UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/963/W/0/1252/0/0 Active Datum: RKB @4,819.01ft (above Mean Sea Level) Code P/U Date Time Duration Phase Sub MD From Operation Start-End Code (hr) 7:15 - 16:00 8.75 COMP 44 C Р SITP 0, SICP 0. SURFACE CSG OPEN. EST CIRC AND D/O PLUGS. #1- C/O 25' SAND TO CBP AT 7973', D/O IN 7 MIN. 500# INC. FCP 0-200. RIH. #2- C/O 30' SAND TO CBP AT 8164'. D/O IN 8 MIN. 900# INC. FCP 200-400. RIH. #3- C/O 25' SAND TO CBP AT 8537'. D/O IN 8 MIN. 600# INC. FCP 400-500. RIH. #4- C/O 20' SAND TO CBP AT 8771', D/O IN 6 MIN. 500# INC. FCP 500-700, RIH. #5- C/O 30' SAND TO CBP AT 8944', D/O IN 8 MIN. 500# INC. FCP 500-700. RIH. #6- C/O 25' SAND TO CBP AT 9344'. D/O IN 4 MIN. 500# INC, FCP 600, RIH. #7- C/O 25' SAND TO CBP AT 9755', D/O IN 8 MIN. 500# INC. FCP 600-800, RIH. #8- C/O 25' SAND TO CBP AT 10.276', D/O IN 5 MIN. 400# INC. FCP 700-900, RIH. #9- C/O 27' SAND TO CBP AT 11,038'. D/O IN 10 MIN. 400# INC. FCP 800-1000. RIH. #10- C/O 35' SAND TO CBP AT 11,159', D/O IN 15 MIN. 400# INC. FCP 700-900. RIH. PBTD- C/O 45' SAND TO 11,312" W/ 357-JTS IN (93' RATHOLE). CIRC CLEAN. RD PWR SWIVEL, POOH AS LD 9-JTS. PU 4" 10K HANGER, LUB IN AND LAND 348-JTS 2-3/8" L-80 TBG W/ EOT AT 11,026.05'. RD FLOOR. ND BOP. NU WH. POBS AT 3200#. SITP 1250, SICP 2750, SURFACE DRIBBLED MUDDY WTR AS D/O PLUGS 4-10 THEN QUIT, HOOK UP TO HAL 9000, TURN OVER TO FBC AND SALES, RDSU, SDFN TBG DETAIL KB 26.00 4" 10K HANGER .83 348-JTS 2-3/8" L-80 10 997 02 1.87" XN FE POBS 2.20 EOT 11.026.05 359-JTS DELIVERED, 11-JTS RETURNED. TWTR 19,678, TWR 3600, LTR 16,078. 7:00 9/23/2011 33 Α 7 AM FLBK REPORT: CP 3800#, TP 2550#, 20/64" CK, 50 BWPH, MED SAND, - GAS TTL BBLS RECOVERED: 4510 **BBLS LEFT TO RECOVER: 15168** 7:00 9/24/2011 33 Α 7 AM FLBK REPORT: CP 3950#, TP 2550#, 20/64" CK, 45 BWPH, LIGHT SAND, - GAS TTL BBLS RECOVERED: 5630 **BBLS LEFT TO RECOVER: 14048** 9/25/2011 7:00 33 7 AM FLBK REPORT: CP 3800#, TP 2550#, 20/64" CK, 35 BWPH, LIGHT SAND, - GAS TTL BBLS RECOVERED: 6590 **BBLS LEFT TO RECOVER: 13088**

10/18/2011 10:17:10AM

#### **US ROCKIES REGION Operation Summary Report** Spud Conductor: 5/19/2011 Spud Date: 5/29/2011 Well: NBU 921-20D4BS RED Project: UTAH-UINTAH Site: NBU 921-20D PAD Rig Name No: MILES 3/3 End Date: 9/22/2011 Event: COMPLETION Start Date: 9/9/2011 UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/963/W/0/1252/0/0 Active Datum: RKB @4,819.01ft (above Mean Sea Level) Date Phase Code P/U MD From Operation Time Duration Sub Start-End Code (ft) 7:00 33 9/26/2011 7 AM FLBK REPORT: CP 3600#, TP 2525#, 20/64" CK, 35 BWPH, light SAND, - GAS TTL BBLS RECOVERED: 7430 **BBLS LEFT TO RECOVER: 12248** 7:00 9/27/2011 33 Α 7 AM FLBK REPORT: CP 3475#, TP 2450#, 20/64" CK, 28 BWPH, LIGHT SAND, - GAS TTL BBLS RECOVERED: 8134 **BBLS LEFT TO RECOVER: 11544**

10/18/2011 10:17:10AM

7

Project: UTAH - UTM (feet), NAD27, Zone 12N Site: UINTAH\_NBU 921-20D PAD

Well: NBU 921-20D4BS Wellbore: NBU 921-20D4BS

Section:

+E/-W

0.00

+N/-S

0.00

SHL: P\_NBU 921-20D4BS

drillers target (921-20D4BS) intersect top of cylinder (921-20D4BS) NBU 921-20D4BS BHL

Design: NBU 921-20D4BS (wp01) H&P 298

Latitude: 40.026229 Longitude: -109.579865 GL: 4793.00

KB: 26' RKB + 4793' GL @ 4819.00ft (H&P 298)

#### FORMATION TOP DETAILS

TVD 2758.64

MDPath 5095.12 8149.14 9145.15 TVDPath 5034.00 8088.00 9084.00 9591.00 9652.15

Formation Top Wasatch (top of cylinder) Top Mesaverde MVU21 MVL1

CASING DETAILS

MD 2810.33



# Weatherford



Azimuths to True North Magnetic North: 11.37°

Magnetic Field Strength: 52575.6snT Dip Angle: 65.94° Date: 4/20/2009 Model: IGRF200510

WELL DETAILS: NB	U 921-20D4BS		
Ground Level: Easting	4793.00 Latittude	Longitude	Slot

+N/-S 185.72 184.06 165.72

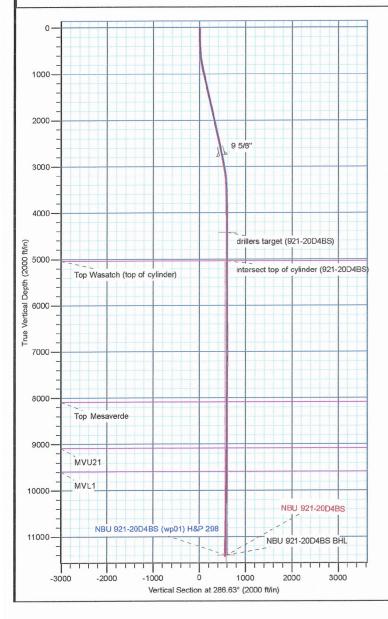
	WELL DETAILS: N	BU 921-20D4BS		
	Ground Level:	4793.00		
Northing	Easting	Latittude	Longitude	Slot
14538764.47	2037992.18	40.026229	-109.579865	

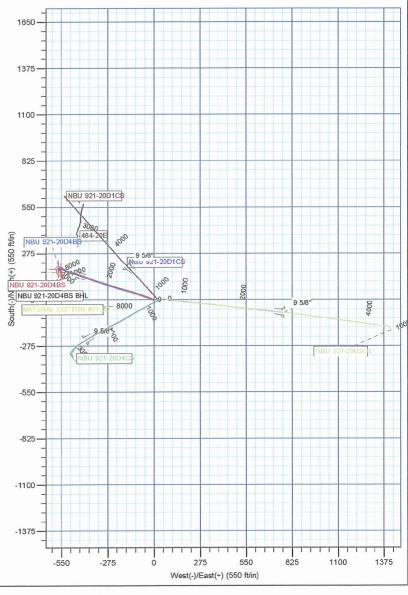
TVD 4422.00 5034.00 11400.00

D	ESIGN TARGET DET	AILS			
+E/-W	Northing	Easting	Latitude	Longitude	Shape
-569.68	14538941.08	2037419.61	40.026739	-109.581900	Circle (Radius: 15.00)
-568.43	14538939.44	2037420.89	40.026734	-109.581895	Point
-554.68	14538921.32	2037434.93	40.026684	-109.581846	Circle (Radius: 25.00)

Name Size 9 5/8" 9-5/8

				SECTION DE	ETAILS		· ·		
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
2800.00	13.01	287.97	2748.58	151.43	-457.20	0.00	0.00	481.42	
2959.00	13.01	287.97	2903.50	162.47	-491.25	0.00	0.00	517.20	
3582.44	0.55	277.54	3521.36	184.60	-561.25	2.00	-179.54	590.61	
4451.66	0.55	277.54	4390.54	185.70	-569.53	0.00	0.00	598.85	
4483.12	0.00	0.00	4422.00	185.72	-569.68	1.75	180.00	599.00	
4551.89	0.21	143.13	4490.77	185.62	-569.61	0.30	143.13	598.90	
11461.17	0.21	143.13	11400.00	165.72	-554.68	0.00	0.00	578.91	





# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_NBU 921-20D PAD NBU 921-20D4BS

NBU 921-20D4BS

Design: NBU 921-20D4BS

# **Standard Survey Report**

12 July, 2011



#### Survey Report



Company:

US ROCKIES REGION PLANNING

Project:

UTAH - UTM (feet), NAD27, Zone 12N

Site:

UINTAH NBU 921-20D PAD

Well: Wellbore: NBU 921-20D4BS

Design:

NBU 921-20D4BS

NBU 921-20D4BS

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** Database:

Well NBU 921-20D4BS

26' RKB + 4793' GL @ 4819.00ft (H&P 298) 26' RKB + 4793' GL @ 4819.00ft (H&P 298)

Minimum Curvature

edm5000p

Project

UTAH - UTM (feet), NAD27, Zone 12N

Map System:

Universal Transverse Mercator (US Survey Fee System Datum:

Mean Sea Level

Geo Datum:

NAD 1927 (NADCON CONUS)

Map Zone:

Zone 12N (114 W to 108 W)

Site

UINTAH NBU 921-20D PAD

Site Position:

Northing:

14.538.764.47 ft

Latitude:

40.026229

From:

Lat/Long

+N/-S

+E/-W

Easting:

2.037.992.18 ft

Longitude:

**Position Uncertainty:** 

0.00 ft

Slot Radius:

Grid Convergence:

-109.579865

0.91°

Well

NBU 921-20D4BS

**Well Position** 

0.00 ft

Northing:

14,538,764.47 ft

Latitude:

40 026229

0.00 ft

Easting:

2,037,992.18 ft

Longitude:

-109.579865

**Position Uncertainty** 

0.00 ft

Wellhead Elevation:

**Ground Level:** 

4,793.00 ft

Wellbore

NBU 921-20D4BS

**Magnetics** 

**Model Name** 

Sample Date

Declination (°)

**Dip Angle** 

Field Strength (nT)

IGRF200510

4/20/2009

17.00

11.37

65 94

52,576

Design

NBU 921-20D4BS

**Audit Notes:** 

Version:

1.0

Phase:

ACTUAL

Tie On Depth:

0.00

17.00

Depth From (TVD)

+N/-S

+E/-W

Direction

286.63

Vertical Section:

(ft)

0.00

(ft)

Survey Program From (ft)

(ft)

Date 7/12/2011 Survey (Wellbore)

**Tool Name** 

Description

198 00 2,844.00

2,800,00 Survey #1 (NBU 921-20D4BS) 11,480.00 Survey #2 (NBU 921-20D4BS)

MWD MWD MWD - Standard MWD - Standard

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
17.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00	0.00	0.00
198.00	0.09	183.65	198.00	-0.14	-0.01	-0.03	0.05	0.05	0.00
289.00	0.62	263.45	289.00	-0.27	-0.50	0.40	0.67	0.58	87.69
382.00	1.67	288.50	381.98	0.10	-2.29	2.22	1.22	1.13	26.94
477.00	3.08	288.68	476.89	1.36	-6.02	6.16	1.48	1.48	0.19
572.00	5.19	291.40	571.64	3.75	-12.44	12.99	2.23	2.22	2.86
668.00	6.95	291.93	667.10	7.50	-21.87	23.10	1.83	1.83	0.55
763.00	8.88	290.96	761.19	12.27	-34.05	36.14	2.04	2.03	-1.02
858.00	11.08	289.82	854.75	17.99	-49.49	52.56	2.32	2.32	-1.20
953.00	12.40	289.73	947.76	24.53	-67. <u>68</u>	71.86	1.39	1.39	-0.09

#### APC Survey Report

# **Weatherford**

Company: Project: US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_NBU 921-20D PAD

Site: Well: Wellbore:

NBU 921-20D4BS NBU 921-20D4BS NBU 921-20D4BS Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Database:

Well NBU 921-20D4BS

26' RKB + 4793' GL @ 4819.00ft (H&P 298) 26' RKB + 4793' GL @ 4819.00ft (H&P 298)

True

Minimum Curvature

edm5000p

Design: Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,047.00	13.10	287.80	1,039.44	31.19	-87.32	92.59	0.87	0.74	-2.05
1,143.00	13.54	289.20	1,132.86	38.21	-108.29	114.70	0.57	0.46	1.46
1,238.00	13.63	286.83	1,225.20	45.11	-129.51	137.00	0.59	0.09	-2.49
1,333.00	13.63	286.13	1,317.53	51.46	-150.97	159.39	0.17	0.00	-0.74
1,429.00	12.49	285.34	1,411.04	57.35	-171.85	181.08	1.20	-1.19	-0.82
1,524.00	11.96	283.76	1,503.89	62.41	-191.32	201.18	0.66	-0.56	-1.66
1,620.00	11.96	285.95	1,597.80	67.51	-210.54	221.06	0.47	0.00	2.28
1,714.00	12.40	289.47	1,689.69	73.55	-229.43	240.88	0.92	0.47	3.74
1,809.00	13.01	288.77	1,782.36	80.39	-249.17	261.75	0.66	0.64	-0.74
1,903.00	13.89	287.45	1,873.78	87.18	-269.95	283.61	0.99	0.94	-1.40
1,998.00	13.63	286.39	1,966.06	93.76	-291.57	306.20	0.38	-0.27	-1.12
2,093.00	13.54	286.13	2,058.40	100.00	-312.99	328.52	0.11	-0.09	-0.27
2,189.00	13.45	289.03	2,151.75	106.77	-334.34	350.91	0.71	-0.09	3.02
2,284.00	12.40	289.20	2,244.34	113.72	-354.41	372.14	1.11	-1.11	0.18
2,379.00	11.78	290.61	2,337.23	120.49	-373.12	392.00	0.72	-0.65	1.48
2,472.00	11.78	291.49	2,428.27	127.31	-390.84	410.93	0.19	0.00	0.95
2,567.00	12.40	291.40	2,521.17	134.58	-409.36	430.76	0.65	0.65	-0.09
2,662.00	12.31	288.94	2,613.97	141.59	-428.44	451.04	0.56	-0.09	-2.59
2,758.00	12.93	289.12	2,707.65	148.43	-448.27	472.00	0.65	0.65	0.19
2,800.00	13.01	287.97	2,748.58	151.43	-457.20	481.42	0.64	0.19	<b>-2</b> .74
2,844.00	12.19	286.54	2,791.52	154.28	-466.37	491.02	1.99	-1.86	-3.25
2,939.00	11.13	283.32	2,884.56	159.25	-484.91	510.20	1.31	-1.12	-3.39
3,033.00	10.00	285.64	2,976.96	163.54	-501.59	527.42	1.28	-1.20	2.47
3,128.00	9.25	291.39	3,070.63	168.55	-516.65	543.28	1.28	-0.79	6.05
3,222.00	6.00	295.77	3,163.78	173.44	-528.11	555.66	3.51	-3.46	4.66
3,317.00	5.38	305.89	3,258.32	178.21	-536.19	564.76	1.24	-0.65	10.65
3,411.00	4.38	332.89	3,351.99	183.99	-541.40	571.41	2.63	-1.06	28.72
3,505.00	1.94	318.14	3,445.84	188.37	-544.09	575.25	2.71	-2.60	-15.69
3,600.00	1.71	308.69	3,540.79	190.45	-546.27	577.93	0.40	-0.24	-9.95
3,695.00	1.19	295.27	3,635.76	191.76	-548.27	580.22	0.65	-0.55	-14.13
3,789.00	1.06	254.39	3,729.74	191.94	-549.99	581.92	0.85	-0.14	-43.49
3,883.00	1.19	242.39	3,823.72	191.26	-551.69	583.36	0.29	0.14	-12.77
3,978.00	0.25	291.14	3,918.72	190.88	-552.76	584.27	1.10	-0.99	51.32
4,072.00	0.19	248.89	4,012.72	190.89	-553.10	584.60	0.18	-0.06	-44.95
4,167.00	0.44	232.64	4,107.71	190.62	-553.53	584.94	0.28	0.26	-17.11
4,261.00	0.88	233.89	4,201.71	189.97	-554.40	585.59	0.47	0.47	1.33
4,356.00	1.25	238.24	4,296.69	189.00	-555.87	586.71	0.40	0.39	4.58
4,450.00	1.63	225.14	4,390.66	187.51	-557.69	588.03	0.53	0.40	-13.94
4,544.00	0.00	182.14	4,484.65	186.57	-558.64	588.67	1.73	-1.73	0.00
4,639.00	0.38	182.89	4,579.65	186.26	-558.66	588.60	0.40	0.40	0.00
4,733.00	0.38	177.64	4,673.65	185.63	-558.66	588.42	0.04	0.00	-5.59
4,828.00	0.50	189.52	4,768.64	184.91	-558.72	588.27	0.16	0.13	12.51
4,923.00	0.88	185.02	4,863.64	183.77	-558.85	588.07	0.40	0.40	-4.74

#### APC Survey Report



Company: Project:

Site:

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

UINTAH\_NBU 921-20D PAD

 Well:
 NBU 921-20D4BS

 Wellbore:
 NBU 921-20D4BS

 Design:
 NBU 921-20D4BS

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Database:

Well NBU 921-20D4BS

26' RKB + 4793' GL @ 4819.00ft (H&P 298) 26' RKB + 4793' GL @ 4819.00ft (H&P 298)

True

Minimum Curvature

edm5000p

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-₩ (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
5,017.00	1.00	187.64	4,957.62	182.24	-559.02	587.80	0.14	0.13	2.79	186561908
5,111.00	0.56	286.02	5,051.62	181.56	-559.57	588.13	1.29	-0.47	104.66	
5,206.00	0.69	255.64	5,146.61	181.54	-560.57	589.08	0.37	0.14	-31.98	
5,300.00	0.75	225.77	5,240.61	180.97	-561.56	589.87	0.40	0.06	-31.78	
5,394.00	0.94	216.39	5,334.60	179.92	-562.46	590.43	0.25	0.20	-9.98	
5,489.00	1.25	52.77	5,429.59	179.92	-562.10	590.08	2.28	0.33	-172.23	
5,583.00	1.13	62.27	5,523.57	180.97	-560.46	588.81	0.25	-0.13	10.11	
5,677.00	0.88	75.27	5,617.55	181.59	-558.94	587.53	0.36	-0.27	13.83	
5,772.00	0.69	78.52	5,712.55	181.89	-557.68	586.40	0.21	-0.20	3.42	
5,866.00	0.69	93.64	5,806.54	181.96	-556.56	585.35	0.19	0.00	16.09	
5,961.00	0.63	92.27	5,901.53	181.91	-555.46	584.29	0.07	-0.06	-1.44	
6,055.00	0.88	97.89	5,995.52	181.79	-554.23	583.08	0.28	0.27	5.98	
6,149.00	0.75	316.14	6,089.52	182.13	-553.94	582.90	1.64	-0.14	-150.80	
6,244.00	1.81	310.52	6,184.50	183.56	-555.51	584.81	1.12	1.12	-5.92	
6,338.00	1.81	312.27	6,278.45	185.52	-557.74	587,51	0.06	0.00	1.86	
6,433.00	1.56	306.77	6,373.41	187.30	-559.89	590.07	0.31	-0.26	-5.79	
6,527.00	1.38	310.02	6,467.38	188.80	-561.78	592.31	0.21	-0.19	3.46	
6,622.00	1.16	296.75	6,562.35	189.96	-563.51	594.31	0.39	-0.23	-13.97	
6,716.00	1.13	282.52	6,656.33	190.59	-565.27	596.17	0.30	-0.03	-15.14	
6,811.00	0.94	269.89	6,751.32	190.79	-566.96	597.85	0.31	-0.20	-13.29	
6,905.00	0.75	261.89	6,845.31	190.71	-568.34	599.15	0.24	-0.20	-8.51	
7,000.00	1.13	97.14	6,940.30	190.50	-568.03	598.79	1.96	0.40	-173.42	
7,094.00	1.13	109.39	7,034.29	190.08	-566.23	596.95	0.26	0.00	13.03	
7,189.00	1.06	114.39	7,129.27	189.41	-564.55	595.14	0.12	-0.07	5.26	
7,283.00	1.06	103.64	7,223.25	188.84	-562.91	593.41	0.21	0.00	-11.44	
7,378.00	1.19	121.02	7,318.23	188.13	-561.21	591.58	0.38	0.14	18.29	
7,472.00	1.19	118.02	7,412.21	187.16	-559.52	589.68	0.07	0.00	-3.19	
7,567.00	0.25	126.14	7,507.21	186.58	-558.48	588.52	0.99	-0.99	8.55	
7,662.00	0.44	130.52	7,602.20	186.22	-558.03	587.99	0.20	0.20	4.61	
7,756.00	0.38	157.52	7,696.20	185.70	-557.64	587.46	0.21	-0.06	28.72	
7,851.00 7,946.00	0.31 0.50	142.89 155.27	7,791.20 7,886.20	185.20 184.62	-557.36 -557.04	587.05 586.57	0.12 0.22	-0.07 0.20	-15.40 13.03	
8,041.00	0.50	151.27	7,981.19	183.88	-556.66	586.00	0.04	0.00	-4.21	
•	0.81		· ·	182.89	-556.26	585.34	0.04	0.00	11.70	
8,135.00 8,230.00	0.56	162.27 329.14	8,075.19 8,170.19	182.65	-556.26 -556.30	585.30	1.43	-0.26	175.65	
			8,265.18				0.12			
8,325.00	0.58	340.08	•	183.50	-556.70	585.93		0.02	11.52	
8,420.00	0.25	319.52	8,360.18	184.11	-557.00	586.39	0.38	-0.35	-21.64	
8,514.00	0.19	305.01	8,454.18	184.35	-557.26	586.71	0.09	-0.06	-15.44	
8,609.00	0.13	109.77	8,549.18	184.41	-557.29	586.75	0.33	-0.06	173.43	
8,703.00	0.31	184.14	8,643.18	184.12	-557.20	586.59	0.32	0.19	79.12	
8,797.00	0.69	168.64	8,737.17	183.31	-557.11	586.27	0.43	0.40	-16.49	
8,891.00	0.81	224.89	8,831.17	182.28	-557.47	586.32	0.76	0.13	59.84	
8,986.00	0.63	215.14	8,926.16	181.38	-558.24	586.80	0.23	-0.19	-10.26	

### APC Survey Report



Company:

US ROCKIES REGION PLANNING

Project:

UTAH - UTM (feet), NAD27, Zone 12N

Site: Well: UINTAH\_NBU 921-20D PAD NBU 921-20D4BS

Wellbore: NBU 921-20D4BS Design: NBU 921-20D4BS Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Database:

Well NBU 921-20D4BS

26' RKB + 4793' GL @ 4819.00ft (H&P 298) 26' RKB + 4793' GL @ 4819.00ft (H&P 298)

True

Minimum Curvature

edm5000p

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,080.00	0.06	220.38	9,020.16	180.92	-558.57	586.99	0.61	-0.61	5.57
9,175.00	0.06	253.39	9,115.16	180.87	-558.65	587,05	0.04	0.00	34.75
9,269.00	0.21	114.08	9,209.16	180.78	-558.54	586.92	0.27	0.16	-148,20
9,363.00	0.50	97.89	9,303.15	180.66	-557.98	586.34	0.32	0.31	-17.22
9,458.00	0.50	110.77	9,398.15	180.45	-557.18	585.52	0.12	0.00	13.56
9,552.00	0.56	130.64	9,492.15	180.01	-556.45	584.69	0.20	0.06	21.14
9,646.00	0.69	143.52	9,586.14	179.25	-555.76	583.82	0.20	0.14	13.70
9,741.00	0.69	123.64	9,681.13	178.48	-554.95	582,81	0.25	0.00	-20.93
9,835.00	0.88	157.39	9,775.13	177.50	-554.20	581.82	0.52	0.20	35.90
9,930.00	0.81	172.27	9,870.12	176.16	-553.83	581.08	0.24	-0.07	15.66
10,024.00	1.38	173.02	9,964.10	174.38	-553.60	580.35	0.61	0.61	0.80
10,119.00	1.38	171.77	10,059.07	172.11	-553.30	579.41	0.03	0.00	-1.32
10,213.00	1.44	178.14	10,153.04	169.81	-553.10	578.56	0.18	0.06	6.78
10,307.00	1.94	169.39	10,247.00	167.06	-552.77	577.46	0.60	0.53	-9.31
10,402.00	1.88	168.89	10,341.95	163.95	-552.17	576.00	0.07	-0.06	-0.53
10,497.00	2.06	160.02	10,436.89	160.82	-551.29	574.25	0.37	0.19	-9.34
10,591.00	2.13	166.39	10,530.83	157.53	-550.30	572.36	0.26	0.07	6.78
10,686.00	2.13	167.52	10,625.76	154.09	-549.50	570.62	0.04	0.00	1.19
10,780.00	2.00	157.77	10,719.70	150.87	-548.50	568.74	0.40	-0.14	-10.37
10,875.00	2.25	164.02	10,814.64	147.54	-547.36	566,69	0.36	0.26	6.58
10,970.00	2.06	156.02	10,909.57	144.19	-546.15	564.57	0.37	-0.20	-8.42
11,065.00	2.19	163.14	11,004.51	140.89	-544.93	562,46	0.31	0.14	7.49
11,159.00	2.25	159.14	11,098.44	137.45	-543.76	560.35	0.18	0.06	-4.26
11,254.00	2.38	166.64	11,193.36	133.79	-542.64	558.23	0.35	0.14	7.89
11,349.00	2.06	157.64	11,288.29	130.29	-541.53	556.17	0.50	-0.34	-9.47
11,430.00	2.06	157.64	11,369.23	127.60	-540.42	554.33	0.00	0.00	0.00
MWD SUR	VEY								
11,480.00	2.06	157.64	11,419.20	125.93	-539.74	553.20	0.00	0.00	0.00

Design Anno		Service Countries & 14495	esse mikrokan na juurian saser sekti ekkin		n in ering i serimber meller mit de meint, als stemmet er lingste der met er sich i met mit er vicht des vichtigen i Til serim i serimber meller mit de meint er stemmet er stemmet er serimber met er sich i met met vichtigen in	
	Measured Depth (ft)	Vertical Depth (ft)	Local Coord +N/-S (ft)	dinates +E/-W (ft)	Comment	新原的 海绵的
	11,430.00	11,369.23	127.60	-540.42	MWD SURVEY	
	11,480.00	11,419.20	125.93	-539.74	LAST PROJECTION	

Checked By:	Approved By:	Date:

# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_NBU 921-20D PAD NBU 921-20D4BS

**NBU 921-20D4BS** 

Design: NBU 921-20D4BS

**Survey Report - Geographic** 

12 July, 2011



#### Survey Report - Geographic



Company:

US ROCKIES REGION PLANNING

Project:

UTAH - UTM (feet), NAD27, Zone 12N

Site:

UINTAH NBU 921-20D PAD

Well:

Wellbore: Design:

NBU 921-20D4BS NBU 921-20D4BS

NBU 921-20D4BS

Local Co-ordinate Reference:

**TVD Reference:** 

MD Reference:

North Reference:

**Survey Calculation Method:** Database:

Well NBU 921-20D4BS

26' RKB + 4793' GL @ 4819.00ft (H&P 298) 26' RKB + 4793' GL @ 4819.00ft (H&P 298)

True

Minimum Curvature

edm5000p

**Project** 

UTAH - UTM (feet), NAD27, Zone 12N

Map System:

Universal Transverse Mercator (US Survey Fee System Datum:

Mean Sea Level

Geo Datum: Map Zone:

NAD 1927 (NADCON CONUS)

Zone 12N (114 W to 108 W)

Site

UINTAH NBU 921-20D PAD

Site Position:

Lat/Long

Northina:

14.538.764.47 ft

Latitude:

40.026229

From:

Easting:

2.037.992.18 ft

Longitude:

-109.579865

**Position Uncertainty:** 

0.00 ft

Slot Radius:

0 "

**Grid Convergence:** 

0.91°

Well **Well Position**  NBU 921-20D4BS

+N/-S +E/-W

0.00 ft 0.00 ft Northing: Easting:

4/20/2009

17.00

14,538,764.47 ft 2,037,992.18 ft

11.37

Latitude:

40.026229 -109.579865

**Position Uncertainty** 

0.00 ft

Wellhead Elevation:

Longitude: **Ground Level:** 

65.94

4,793.00 ft

Wellbore

NBU 921-20D4BS

Magnetics

Model Name

Sample Date

Declination

**Dip Angle** 

Field Strength

(nT)

NBU 921-20D4BS

IGRF200510

**Audit Notes:** 

Version:

Design

1.0

Phase:

**ACTUAL** 

Tie On Depth:

0.00

17.00

52.576

**Vertical Section:** 

Depth From (TVD) (ft)

+N/-S (ft)

0.00

+E/-W (ft)

Direction

286.63

**Survey Program** 

Date 7/12/2011

From To (ft)

(ft) Survey (Wellbore)

**Tool Name** 

Description

198.00 2.844.00

2,800.00 Survey #1 (NBU 921-20D4BS) 11,480.00 Survey #2 (NBU 921-20D4BS) MWD MWD MWD - Standard MWD - Standard

Simov

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
17.00	0.00	0.00	17.00	0.00	0.00	14,538,764.47	2,037,992.18	40.026229	-109.579865
198.00	0.09	183.65	198.00	-0.14	-0.01	14,538,764.33	2,037,992.17	40.026229	-109.579865
289.00	0.62	263.45	289.00	-0.27	-0.50	14,538,764.19	2,037,991.68	40.026228	-109.579867
382.00	1.67	288.50	381.98	0.10	-2.29	14,538,764.54	2,037,989.89	40.026229	-109.579873
477.00	3.08	288.68	476.89	1.36	-6.02	14,538,765.73	2,037,986.14	40.026233	-109.579887
572.00		291.40	571.64	3.75	-12.44	14,538,768.02	2,037,979.68	40.026239	-109.579910
668.00		291.93	667.10	7.50	-21.87	14,538,771.62	2,037,970.19	40.026250	-109.579943
763.00		290.96	761.19	12.27	-34.05	14,538,776.20	2,037,957.94	40.026263	-109.579987
858.00		289.82	854.75	17.99	-49.49	14,538,781.67	2,037,942.41	40.026278	-109.580042
953.00		289.73	947.76	24.53	-67.68	14,538,787.92	2,037,924.12	40.026296	-109.580107
1.047.00		287.80	1.039.44	31.19	-87.32	14,538,794.26	2,037,904.37	40.026315	-109.580177

#### Survey Report - Geographic



Company:

US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

UINTAH NBU 921-20D PAD Site: NBU 921-20D4BS Well: Wellbore: NBU 921-20D4BS

Design: NBU 921-20D4BS Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Database:

Well NBU 921-20D4BS

26' RKB + 4793' GL @ 4819.00ft (H&P 298) 26' RKB + 4793' GL @ 4819.00ft (H&P 298)

Minimum Curvature

edm5000p

Survey	

Measured			Vertical			Мар	Мар		
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
36.65.03550.65.4566.70.5	e analisa tao day d	reference en englen.		99.8.8 VM20V06.0572)	geart ethice h	Section Control		AD PROPERTY OF COURSE AND CONTRACT OF CONT	CAPISA SE CAMPATAN SAN
1,143.00		289.20	1,132.86	38.21	-108.29	14,538,800.95	2,037,883.29	40.026334	-109.580252
1,238.00		286.83	1,225.20	45.11	-129.51	14,538,807.51	2,037,861.97	40.026353	-109.580328
1,333.00		286.13	1,317.53	51.46 57.05	-150.97	14,538,813.52	2,037,840.40	40.026370	-109.580404
1,429.00		285.34	1,411.04	57.35	-171.85	14,538,819.07	2,037,819.43	40.026387	-109.580479
1,524.00		283.76	1,503.89	62.41	-191.32	14,538,823.82	2,037,799.89	40.026400	-109.580549
1,620.00 1,714.00		285.95 289.47	1,597.80 1,689.69	67.51 73.55	-210.54 -229.43	14,538,828.61 14,538,834.35	2,037,780.58 2,037,761.61	40.026414 40.026431	-109.580617 -109.580685
1,809.00		288.77	1,782.36	80.39	-229.43 -249.17	14,538,840.88	2,037,741.76	40.026450	-109.580755
1,903.00		287.45	1,873.78	87.18	-269.95	14,538,847.33	2,037,720.87	40.026468	-109.580829
1,998.00		286.39	1,966.06	93.76	-291.57	14,538,853.57	2,037,699.16	40.026487	-109.580907
2,093.00		286.13	2,058.40	100.00	-312.99	14,538,859.47	2,037,677.64	40.026504	-109.580983
2,189.00		289.03	2,151.75	106.77	-334.34	14,538,865.89	2,037,656.18	40.026522	-109.581059
2,284.00		289.20	2,244.34	113.72	-354.41	14,538,872.53	2,037,636.00	40.026541	-109.581131
2,379.00		290.61	2,337.23	120.49	-373,12	14,538,879.00	2,037,617.18	40.026560	-109.581198
2,472.00		291.49	2,428.27	127.31	-390.84	14,538,885.53	2,037,599.35	40.026579	-109.581261
2,567.00		291.40	2,521.17	134.58	-409.36	14,538,892.51	2,037,580.72	40.026599	-109.581327
2,662.00	12.31	288.94	2,613.97	141.59	-428.44	14,538,899.22	2,037,561.54	40.026618	-109.581395
2,758.00	12.93	289.12	2,707.65	148.43	-448.27	14,538,905.74	2,037,541.60	40.026637	-109.581466
2,800.00	13.01	287.97	2,748.58	151.43	-457.20	14,538,908.59	2,037,532.62	40.026645	-109.581498
2,844.00	12.19	286.54	2,791.52	154.28	-466.37	14,538,911.30	2,037,523.41	40.026653	-109.581531
2,939.00	11.13	283.32	2,884.56	159.25	-484.91	14,538,915.97	2,037,504.80	40.026666	-109.581597
3,033.00		285.64	2,976.96	163.54	-501.59	14,538,919.99	2,037,488.04	40.026678	-109.581657
3,128.00		291.39	3,070.63	168.55	-516.65	14,538,924.76	2,037,472.91	40.026692	-109.581710
3,222.00	6.00	295.77	3,163.78	173.44	-528.11	14,538,929.47	2,037,461.37	40.026705	-109.581751
3,317.00	5.38	305.89	3,258.32	178.21	-536.19	14,538,934.11	2,037,453.22	40.026718	-109.581780
3,411.00	4.38	332.89	3,351.99	183.99	-541.40	14,538,939.81	2,037,447.92	40.026734	-109.581799
3,505.00	1.94	318.14	3,445.84	188.37	-544.09	14,538,944.14	2,037,445.15	40.026746	-109.581808
3,600.00	1.71	308.69	3,540.79	190.45	-546.27	14,538,946.19	2,037,442.94	40.026752	-109.581816
3,695.00	1.19	295.27	3,635.76	191.76	-548.27	14,538,947.47	2,037,440.92	40.026756	-109.581823
3,789.00 3,883.00	1.06 1.19	254.39 242.39	3,729.74 3,823.72	191.94 191.26	-549.99 -551.69	14,538,947.62 14,538,946.91	2,037,439.20	40.026756	-109.581830
3,978.00	0.25	291.14	3,918.72	190.88	-551.69 -552.76	14,538,946.51	2,037,437.51 2,037,436.44	40.026754 40.026753	-109.581836
4,072.00	0.23	248.89	4,012.72	190.89	-552.70 -553.10	14,538,946.52	2,037,436.11	40.026753	-109.581839 -109.581841
4,167.00	0.44	232.64	4,107.71	190.62	-553.53	14,538,946.24	2,037,435.67	40.026752	-109.581842
4,261.00	0.88	233.89	4,201.71	189.97	-554.40	14,538,945.58	2,037,434.82	40.026751	-109.581845
4,356.00	1.25	238.24	4,296.69	189.00	-555.87	14,538,944.58	2,037,433.36	40.026748	-109.581851
4,450.00	1.63	225.14	4,390.66	187.51	-557.69	14,538,943.07	2,037,431.56	40.026744	-109.581857
4,544.00	0.00	182.14	4,484.65	186.57	-558.64	14,538,942.11	2,037,430.63	40.026741	-109.581860
4,639.00	0.38	182.89	4,579.65	186.26	-558.66	14,538,941.80	2,037,430.62	40.026740	-109.581860
4,733.00	0.38	177.64	4,673.65	185.63	-558.66	14,538,941.17	2,037,430.63	40.026739	-109.581860
4,828.00	0.50	189.52	4,768.64	184.91	-558.72	14,538,940.45	2,037,430.58	40.026737	-109.581861
4,923.00	0.88	185.02	4,863.64	183.77	-558.85	14,538,939.31	2,037,430.47	40.026734	-109.581861
5,017.00	1.00	187.64	4,957.62	182.24	<i>-</i> 559.02	14,538,937.78	2,037,430.32	40.026729	-109.581862
5,111.00	0.56	286.02	5,051.62	181.56	-559.57	14,538,937.08	2,037,429.78	40.026728	-109.581864
5,206.00	0.69	255.64	5,146.61	181.54	-560.57	14,538,937.05	2,037,428.78	40.026728	-109.581867
5,300.00	0.75	225.77	5,240.61	180.97	-561.56	14,538,936.47	2,037,427.80	40.026726	-109.581871
5,394.00	0.94	216.39	5,334.60	179.92	-562.46	14,538,935.40	2,037,426.92	40.026723	-109.581874
5,489.00	1.25	52.77	5,429.59	179.92	-562.10	14,538,935.41	2,037,427.28	40.026723	-109.581873
5,583.00	1.13	62.27	5,523.57	180.97	-560.46	14,538,936.49	2,037,428.90	40.026726	-109.581867
5,677.00	0.88	75.27	5,617.55	181.59	-558.94	14,538,937.12	2,037,430.41	40.026728	-109.581861
5,772.00	0.69	78.52	5,712.55	181.89	-557.68	14,538,937.44	2,037,431.67	40.026728	-109.581857
5,866.00	0.69	93.64	5,806.54	181.96	-556.56	14,538,937.54	2,037,432.79	40.026729	-109.581853
5,961.00	0.63	92.27	5,901.53	181.91	-555.46	14,538,937.50	2,037,433.89	40.026729	-109.581849
6,055.00	0.88	97.89	5,995.52	181.79	-554.23 553.04	14,538,937.40	2,037,435.12	40.026728	-109.581845
6,149.00	0.75	316.14	6,089.52	182.13	-553.94	14,538,937.75	2,037,435.40	40.026729	-109.581844

#### APC

## Survey Report - Geographic



Company: Project:

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

Site: Well: UINTAH\_NBU 921-20D PAD NBU 921-20D4BS

Wellbore: NBU 921-20D4BS Design: NBU 921-20D4BS Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Database:

Well NBU 921-20D4BS

26' RKB + 4793' GL @ 4819.00ft (H&P 298) 26' RKB + 4793' GL @ 4819.00ft (H&P 298)

True

Minimum Curvature

edm5000p

S				

Measured			Vertical			Map	Мар		
Depth	Inclination		Depth	+N/-S	+E/-W	Northing	Easting		
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	Latitude	Longitude
6,244.00	1.81	310.52	6,184.50	183.56	-555.51	14,538,939.15	2,037,433.81	40.026733	-109.581849
6,338.00	1.81	312.27	6,278.45	185.52	-557.74	14,538,941.07	2,037,431.55	40.026738	-109.581857
6,433.00	1.56	306.77	6,373.41	187.30	-559.89	14,538,942.82	2,037,429.38	40.026743	-109.581865
6,527.00		310.02	6,467.38	188.80	-561.78	14,538,944.29	2,037,427.46	40.026747	-109.581872
6,622.00		296.75	6,562.35	189.96	-563.51	14,538,945.43	2,037,425.71	40.026751	-109.581878
6,716.00		282.52	6,656.33	190.59	-565.27	14,538,946.03	2,037,423.94	40.026752	-109.581884
6,811.00		269.89	6,751.32	190.79	-566.96	14,538,946.20	2,037,422.25	40.026753	-109.581890
6,905.00		261.89	6,845.31	190.71	-568.34	14,538,946.09	2,037,420.87	40.026753	-109.581895
7,000.00		97.14	6,940.30	190.50	-568.03	14,538,945.89	2,037,421.18	40.026752	-109.581894
7,094.00		109.39	7,034.29	190.08	-566.23	14,538,945.50	2,037,422.99	40.026751	-109.581888
7,189.00		114.39	7,129.27	189.41	-564.55	14,538,944.85	2,037,424.68	40.026749	-109.581882 -109.581876
7,283.00		103.64	7,223.25	188.84	-562.91	14,538,944.31	2,037,426.33	40.026748 40.026746	
7,378.00		121.02	7,318.23	188.13	-561.21	14,538,943.62	2,037,428.04 2,037,429.75	40.026743	-109.581870 -109.581864
7,472.00		118.02 126.14	7,412.21 7,507.21	187.16 186.58	-559.52 -558.48	14,538,942.69 14,538,942.12	2,037,430.80	40.026741	-109.581860
7,567.00		130.52	7,602.20	186.22	-558.03	14,538,941.77	2,037,431.25	40.026740	-109.581858
7,662.00 7,756.00		157.52	7,696.20	185.70	-557.64	14,538,941.25	2,037,431.65	40.026739	-109.581857
7,851.00		142.89	7,791.20	185.20	-557.36	14,538,940.76	2,037,431.93	40.026738	-109.581856
7,946.00		155.27	7,886.20	184.62	-557.04	14,538,940.19	2,037,432.27	40.026736	-109.581855
8,041.00		151.27	7,981.19	183.88	-556.66	14,538,939.45	2,037,432.65	40.026734	-109.581853
8,135.00		162.27	8,075.19	182.89	-556.26	14,538,938.47	2,037,433.07	40.026731	-109.581852
8,230.00		329.14	8,170.19	182.65	-556.30	14,538,938.22	2,037,433.04	40.026731	-109.581852
8,325.00		340.08	8,265.18	183.50	-556.70	14,538,939.07	2,037,432.62	40.026733	-109.581853
8,420.00		319.52	8,360.18	184.11	-557.00	14,538,939.67	2,037,432.32	40.026735	-109.581855
8,514.00		305.01	8,454.18	184.35	<i>-</i> 557.26	14,538,939.91	2,037,432.05	40.026735	-109.581855
8,609.00		109.77	8,549.18	184.41	-557.29	14,538,939.97	2,037,432.02	40.026735	-109.581856
8,703.00		184.14	8,643.18	184.12	-557.20	14,538,939.68	2,037,432.11	40.026735	-109.581855
8,797.00	0.69	168.64	8,737.17	183.31	-557.11	14,538,938.87	2,037,432.22	40.026732	-109.581855
8,891.00	0.81	224.89	8,831.17	182.28	-557.47	14,538,937.84	2,037,431.87	40.026730	-109.581856
8,986.00	0.63	215.14	8,926.16	181.38	<b>-</b> 558.24	14,538,936.93	2,037,431.11	40.026727	-109.581859
9,080.00	0.06	220.38	9,020.16	180.92	-558.57	14,538,936.46	2,037,430.79	40.026726	-109.581860
9,175.00		253.39	9,115.16	180.87	-558.65	14,538,936.41	2,037,430.71	40.026726	-109.581860
9,269.00		114.08	9,209.16	180.78	-558.54	14,538,936.32	2,037,430.83	40.026725	-109.581860
9,363.00		97.89	9,303.15	180.66	-557.98	14,538,936.21	2,037,431.39	40.026725	-109.581858
9,458.00		110.77	9,398.15	180.45	-557.18	14,538,936.02	2,037,432.19	40.026725	-109.581855
9,552.00		130.64	9,492.15	180.01	-556.45	14,538,935.58	2,037,432.93	40.026723	-109.581853
9,646.00		143.52	9,586.14	179.25	-555.76	14,538,934.84	2,037,433.63	40.026721	-109.581850
9,741.00		123.64	9,681.13	178.48	-554.95 -554.20	14,538,934.08	2,037,434.46	40.026719 40.026716	-109.581847 -109.581845
9,835.00		157.39	9,775.13	177.50		14,538,933.11	2,037,435.22 2,037,435.61	40.026713	-109.581843
9,930.00		172.27 173.02	9,870.12 9,964.10	176.16 174.38	-553.83 -553.60	14,538,931.78 14,538,930.00	2,037,435.87	40.026708	-109.581842
10,024.00 10,119.00		173.02	10,059.07	174.36	-553.30	14,538,927.73	2,037,436.21	40.026702	-109.581841
•		178.14	10,059.07	169.81	-553.10	14,538,925.44	2,037,436.44	40.026695	-109.581841
10,213.00 10,307.00		169.39	10,133.04	167.06	-552.77	14,538,922.70	2,037,436.82	40.026688	-109.581839
10,402.00		168.89	10,341.95	163.95	-552.17	14,538,919.60	2,037,437.47	40.026679	-109.581837
10,497.00		160.02	10,436.89	160.82	-551.29	14,538,916.48	2,037,438.40	40.026671	-109.581834
10,591.00		166.39	10,530.83	157.53	-550.30	14,538,913.21	2,037,439.44	40.026662	-109.581831
10,686.00		167.52	10,625.76	154.09	-549.50	14,538,909.78	2,037,440.29	40.026652	-109.581828
10,780.00	2.00	157.77	10,719.70	150.87	-548.50	14,538,906.58	2,037,441.34	40.026643	-109.581824
10,875.00		164.02	10,814.64	147.54	-547.36	14,538,903.27	2,037,442.53	40.026634	-109.581820
10,970.00		156.02	10,909.57	144.19	-546.15	14,538,899.93	2,037,443.79	40.026625	-109.581816
11,065.00		163.14	11,004.51	140.89	-544.93	14,538,896.66	2,037,445.07	40.026616	-109.581811
11,159.00	2.25	159.14	11,098.44	137.45	-543.76	14,538,893.23	2,037,446.30	40.026606	-109.581807
11,254.00		166.64	11,193.36	133.79	-542.64	14,538,889.59	2,037,447.48	40.026596	-109.581803
11,349.00		157.64	11,288.29	130.29	-541.53	14,538,886.11	2,037,448.64	40.026587	-109.581799

#### Survey Report - Geographic



Company:

US ROCKIES REGION PLANNING

Project:

UTAH - UTM (feet), NAD27, Zone 12N

Site:

UINTAH\_NBU 921-20D PAD

Well: Wellbore: NBU 921-20D4BS NBU 921-20D4BS

Design:

NBU 921-20D4BS

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** Database:

Well NBU 921-20D4BS

26' RKB + 4793' GL @ 4819.00ft (H&P 298)

26' RKB + 4793' GL @ 4819.00ft (H&P 298)

Minimum Curvature

edm5000p

Survey

Measured Depth (ft)	inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
11,430.00	2.06	157.64	11,369.23	127.60	-540.42	14,538,883.43	2,037,449.79	40.026579	-109.581795
MWD SI	URVEY								
11,480.00	2.06	157.64	11,419.20	125.93	-539.74	14,538,881.78	2,037,450.50	40.026575	-109.581793
I AST P	ROJECTION	J							

Design Annotations  Measured  Depth  (ft)	Vertical Depth (ft)	Local Coord +N/-S (ff)	linates +E/-W (ft)	Comment
11,430.00	11,369.23	127.60	-540.42	MWD SURVEY
11,480.00	11,419.20	125.93	-539.74	LAST PROJECTION

Checked By:	Approved By:	Date:

Sundry Number: 59761 API Well Number: 43047505970000

	STATE OF UTAH			FORM 9
ı	DEPARTMENT OF NATURAL RESOUF DIVISION OF OIL, GAS, AND M		ì	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 0575
	RY NOTICES AND REPORTS		_	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE
	pposals to drill new wells, significantl reenter plugged wells, or to drill horiz n for such proposals.			7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well		8. WELL NAME and NUMBER: NBU 921-20D4BS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	<b>9. API NUMBER:</b> 43047505970000			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 802		<b>NE NUMBER:</b> 9 720 929-6	9. FIELD and POOL or WILDCAT: 110ATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0963 FNL 1252 FWL				COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NWNW Section:	HIP, RANGE, MERIDIAN: 20 Township: 09.0S Range: 21.0E Me	eridian:	S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE N	ATURE OF NOTICE, REPOR	T, OR OTHER DATA
TYPE OF SUBMISSION			TYPE OF ACTION	
	ACIDIZE		ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:  SUBSEQUENT REPORT Date of Work Completion: 12/20/2014	CHANGE TO PREVIOUS PLANS	□ c	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
	DEEPEN	□ F	RACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	P	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME		RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	□ v	ENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	□ s	SI TA STATUS EXTENSION	APD EXTENSION
	WILDCAT WELL DETERMINATION	1	OTHER	OTHER: WELLBORE CLEANOUT
40 DECODINE PROPOSED OR	COMPLETED OPERATIONS. Clearly show		···-	·
A WORKOVER/WEI	LLBORE CLEANOUT HAS BEI	EN C	OMPLETED ON THE	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY January 14, 2015
NAME (PLEASE PRINT) Doreen Green	<b>PHONE NUM</b> 435 781-9758	IBER	TITLE Regulatory Analyst II	
SIGNATURE N/A			DATE 1/12/2015	

RECEIVED: Jan. 12, 2015

					U	S ROC	KIES R	EGION	
Operation Summary Report									
Well: NBU 921-20D4BS RED Spud Conductor: 5/19/2011 Spud date: 5/29/2011									
Project: UTAH-UINTAH				Site: NBU	Site: NBU 921-20D PAD				Rig name no.: GWS 1/1
Event: WELL WORK EXPENSE					Start date: 12/18/2014				End date: 12/20/2014
Active datum: RI Level)	KB @4,81	19.00usft (ab	ove Mean Se	ea	UWI: N	N/NW/0/9	9/S/21/E/2	20/0/0/26/PM/N/96	63/W/0/1252/0/0
Date	Time Start-End		Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
12/18/2014		- 7:15	0.25	WO/REP	48		Р		SAFETY = JSA.
		- 10:00	2.75	WO/REP	30		Р		ROAD RIG TO LOCATION. MIRU.
40/40/0044		- 17:00	7.00	WO/REP	31		Р		FCP & FTP = 100#. CNTRL TBNG W/ 20BBLS TMAC. CNTRL CSNG W/ 20BBLS TMAC. NDWH. UN-LAND TBG TO SEE IF IT WAS STUCK ( TBG STUCK). STRIP IN 2-3/8" X 6' L-80 PUP JT. LAND TBG BACK ON HANGER. NUBOP. R/U FLOOR & TBNG EQUIP. UN-LAND TBNG. REMOVE HANGER. P/U 1JT 2-3/8" L-80 TBNG. WORK STUCK PIPE.\n\nWORK TBNG FOR +/- 2HRS & IT FINALLY POPPED FREE. MIRU SCANNERS. POOH WHILE SCANNING 194JTS 2-3/8" L-80 TBNG. SWIFN. DRAIN ALL EQUIP. SWIFN.
12/19/2014		- 7:15	0.25	WO/REP	48		Р		SAFETY = JSA.
		- 10:30	3.25	WO/REP	31	1	P		FCP = 120#. SITP= 320#. OPEN CSNG TO FLOWBACK TANK. CNTRL TBG W/ 25BBLS TMAC. R/U SCANNER. CONT POOH WHILE SCANNING REMAINING 154JTS 2-3/8" L-80 TBNG. TOTAL TBNG SCANNED = 348JTS. SCAN RESULTS AS FOLLOWS:\n\nY-BND = 187JTS 2-3/8" L-80.\nR-BND = 161JTS 2-3/8" L-80. DUE TO WALL LOSS & PITTING. BAD INTERVALS FROM JT#3 THRU JT# 107 & JT# 268 THRU JT# 348. VERY HEAVY EXTERNAL SCALE ON JT# 246 THRU JT#248. TBNG WAS STUCK IN THAT SAME INTERVAL.\nRDMO SCANNERS. \n
40/00/0044		- 17:00	6.50	WO/REP	31	I	Р		P/U & RIH W/ 3-7/8" MILL, BIT SUB & 356JTS 2-3/8" L-80 TBNG. TALLY WHILE RIH. FALL THRU BRIDGE @ 11,014'. CONT RIH. EOT @ 11,281' DID NOT T/U. BOTTOM PERF @ 11,219'. POOH 10 JTS TBNG. SWIFN. DRAIN EQUIP. CSG TO SALES. LOCK OUT RAMS. PREP FOR AIR-FOAM C/O IN THE A.M. SDFN.
12/20/2014		- 7:15	0.25	WO/REP	48		P		SAFETY = JSA.
	7:15	- 7:30	0.25	WO/REP	31	I	Р		FCP= 150#. SITP= 50#. CNTRL TBG W/ 15BBLS TMAC. OPEN CSG TO FLOWBCK TANK. TIH 10JTS TBNG. EOT @ 11,281' W/ 356JTS 2-3/8" L-80 TBNG IN THE HOLE. INSTALL TIW VALVE.
	7:30	- 9:00	1.50	WO/REP	31	Н	Р		MIRU FOAM-AIR UNIT. BREAK CONV CIRC. GOOD FOAM COMING BACK. WELL CIRC CLEAN. CNTRL TBG W/ 20BBLS TMAC. LET CSG FLOW (WASHINGTON RUBBER INSTALLED).
	9:00	- 16:30	7.50	WO/REP	31	I	Р		L/D 25JTS TBNG NOT NEEDED FOR PRODUCTION. POOH W/ 331JTS 2-3/8" L-80 TBNG. L/D MILL & BIT SUB. P/U & RIH W/ 1.875" XN-NOTCH COMBO NIPPLE + 331JTS 2-3/8" L-80 TBG. BROACH TBG WHILE RIH W/ 1.910" BROACH. LAND TBG ON HANGER. R/D FLOOR & TBG EQUIP. NDBOP. NUWH. SWI. RDMO. TBNG LANDED AS FOLLOWS:\n\nKB= 26.00\\nHANGER= .83\\n331JTS 2-3/8" L-80 Y-BND TBNG= 10472.26\\n1.875" XN-NOTCH COMBO NIPPLE= 1.10\\nEOT @ 10500.19\\n\nTWLTR= 45BBLS

1/12/2015 8:24:09AM 1